

Excerpta Medica

The International
Medical Abstracting Service

Excerpta Medica
335 Jan van Galenstraat
Amsterdam
The Netherlands

Board of Chief Editors

J. B. BIJLSMA
A. J. DUNNING
P. J. GAILLARD
G. P. M. HORSTEN
SIR PETER MEDAWAR
L. E. MELTZER
N. VAN STRIJTHEM
P. J. VINKEN
W. VAN WESTERING
G. E. W. WOLSTENHOLME

Executive Chief Editors

R. R. BLANKEN
P. VAN ESSEN

Vol. 7.10

Index issue

Biophysics, Bioengineering and Medical Instrumentation

Section 27
Abstracts no 3563-3791

Managing Editors
G. P. M. HORSTEN
J. A. J. KLIJN

Editorial Board

J. A. BUSHMAN London
WILLIAM M. CHARDACK Buffalo
J. F. DAVIS Paris
A. H. FRUCHT Berlin
D. W. HILL London
A. HRBEK Prague
JACOB KLINE Coral Gables
W. J. KOLFF Salt Lake City
BERNARD LOWN Boston
D. W. LÜBBERS Dortmund
ALOYS MÜLLER Freiburg
MASAMITSU OSHIMA Tokyo
B. RAJEWSKY Frankfort/Main
HAROLD W. SHIPTON Iowa City
E. LLEWELLYN THOMAS Toronto
G. WORTH Moers
PAUL M. ZOLL Boston

U.L.C.C.
OCT 19 1979
LIBRARY

Section 27. Biophysics, Bioengineering and Medical Instrumentation

1. GENERAL ASPECTS	527	6.8. Respiration	
1.1. History	-	6.9. Reproductive system	
1.2. Components	527	6.10. Urinary tract	
1.3. Standards	-	6.11. Nervous system	
2. BIOPHYSICS AND BIOENGINEERING	527	6.12. Receptors	
2.1. Fundamental concepts	528	6.13. Locomotor apparatus	
2.2. Mechanical systems	530	6.14. Skin	
2.3. Heat and thermodynamics	532	6.15. Aerospace medicine	
2.4. Bioacoustics	532	6.16. Work and sport	
2.5. Biooptics	533	6.17. Radiology	
2.6. Gas physics	534	6.18. Anesthesia	
2.7. Fluid flow systems	534	6.19. Monitoring	
2.8. Electrical systems	535	7. SURGICAL INSTRUMENTS	
2.9. Nuclear biophysics	-	8. NEW INSTRUMENTS	
3. GENERAL INSTRUMENTATION	536	9. COMPUTER APPLICATIONS	
3.1. Transducers	537	9.1. Hospital automation	
3.2. Amplifiers	537	9.1.1. Laboratory techniques	
3.3. Indicators	-	9.1.2. Administration	
3.4. Recorders	-	9.1.3. Pharmacy	
3.5. Generators	538	9.2. Medical history	
3.6. Telemetric devices	538	9.3. Clinical diagnosis	
3.7. Data loggers	-	9.4. Electrodiagnosis	
3.8. Cameras	542	9.4.1. Electrocardiography	
4. COMPUTERS	543	9.4.2. Electroencephalography	
4.1. Averagers	-	9.4.3. Electromyography	
4.2. Analog	-	9.4.4. Electroretinography	
4.3. Digital	543	9.5. Patient monitoring	
4.4. Hybrid	-	9.6. Drug treatment	
5. SPECIFIC MEASUREMENTS	543	9.7. Radiotherapy	
5.1. Temperature	543	9.8. Medical record documentation	
5.2. Time	-	9.9. Literature documentation	
5.3. Frequency	-	9.10. Function tests and techniques	
5.4. Pressure	-	9.10.1. Blood circulation	
5.5. Flow	543	9.10.2. Respiratory system	
5.6. Flow resistance	-	9.10.3. Nervous system	
5.7. Volume	544		
5.8. Density	-		
5.9. Acceleration	-		
5.10. Displacement	544		
5.11. Electric phenomena	544		
5.11.1. Electric activity	544		
5.11.2. Impedance	-		
5.12. Gas concentration	-		
5.13. Hydrogen ion concentration	-		
5.14. Radiation	544		
5.14.1. Visible light	545		
5.14.2. Ultraviolet	545		
5.14.3. Infrared	545		
5.14.4. Radiowaves	545		
5.14.5. Roentgen radiation	-		
5.14.6. α , β and γ radiation	546		
5.14.7. Neutrons	546		
5.14.8. Cosmic radiation	-		
5.14.9. Sound	546		
6. SPECIALIZED INSTRUMENTATION	547		
6.1. Metabolism	547		
6.2. Thermoregulation	548		
6.3. Digestive tract	-		
6.4. Liver and bile ducts	548		
6.5. Blood	548		
6.6. Lymphatic system	548		
6.7. Circulation	548		

1. GENERAL ASPECTS

3563. Hazards and delegation of responsibility in the operation of electromedical equipment -

PROBLEME DER GEFÄHRDUNG UND DER KOMPETENZDELEGATION BEIM BETRIEB ELEKTROMEDIZINISCHER GERÄTE - Stofer A.R. - Gerichtl. Med. Inst., Univ. Bern - SCHWEIZ.MED.WSCHR. 1973 103/15 (559-564)

Electromedical devices, especially when connected simultaneously to one patient, expose him to increased hazards. In the final analysis evaluation of the relativity of the risks to be incurred is the physician's responsibility, of which no one else can relieve him in the individual case. In the present state of technology, however, he can no longer be held solely responsible for the safety of equipment. He must be able to delegate some technically specialized control functions, and in large hospitals this will, in the long run, require the services of a biomedical engineer. Physician and engineer must cooperate in developing control programs and checklists adapted to the given circumstances. The physician must train his personnel and supervise their work. If an incident occurs, the physician's behavior will be assessed in terms of possible negligence according to criminal law. Civil liability will rest, depending on the terms of employment, with the physician, his personnel, the hospital or possibly the manufacturer of the equipment.

1.2. Components

3564. Control of a cathode ray tube with a signal generator GDR 101-2700 - ANSTEUERUNG EINER

KATHODENSTRAHLROHRE MIT EINEM ZEICHEN GENERATOR GDR 101-2700 - Liedl H. - SIEMENS BAUT.INFORM. 1972 10/4 (82-83)

A description is given of a set up with the signal generator GDR 101-2700, and a MOS fixed value memory from the Siemens MOS type range GD 100, by which alphanumeric display is possible on the screen of a cathode ray tube in the horizontal scan mode. In addition to the signal generator the circuit contains TTL units.

3565. Lutes, glues, cements and adhesives in medicine and dentistry - Smith D.C. - Fac. Dent., Univ. Toronto - BIO-MED.ENGINEERING 1973 8/3 (108-115+120)

Both inorganic and organic materials were used for bonding to the body tissues. In the soft tissues the rapidly polymerising cyanoacrylates were studied intensively for the sutureless closure and protection of wounds. The need for long term toxicity studies still limits their use in man to emergency situations and procedures not otherwise possible. Several dental cements and acrylic cements can be used to bond prostheses to the prepared surfaces of teeth and bones to withstand loads. Most of the investigation in this field to date has been empirical but guiding principles are beginning to emerge to permit rational development of improved materials.

3566. Subacute toxicity testing of biomaterials using histopathologic evaluation of rabbit muscle tissue - Turner J.E., Lawrence W.H. and Autian J. - Mat. Sci. Toxicol. Lab., Coll. Pharm., Univ. Tennessee Med. Units, Memphis, Tenn. 38103 - J.BIOMED.MAT.RES. 1973 7/1 (39-58)

A group of 12 materials was evaluated for tissue compatibility via a sequential histopathologic evaluation of the rabbit muscle response to the implanted materials. Tissue samples were obtained daily for 7 days and weekly for 12 weeks to follow the time course of the response. Some cytotoxic samples revealed a rapid and marked response of relatively short duration, whereas others tended to produce a sustained or a long term, intermittent inflammatory and/or necrotic response. These effects also demonstrated the suitability of 7 days as a satisfactory time period for routine evaluation of rabbit muscle reaction to implanted materials. The histopathologic evaluation of the response was compared with a gross evaluation of the implant site and an independent test of the material by tissue culture (agar overlay method).

3567. Sealing of developmental pits and fissures.

V. Comparison of adhesive topical fluoride coating vs fluoride gels - Lee H. and Ocumpaugh D. - Lee Pharmaceut., South El Monte, Calif. 91733 - BIOMAT.MED.DEVARTIF.ORGANS 1973 1/1 (163-170)

A polyurethane adhesive coating containing disodium monofluorophosphate was compared with acidulated sodium fluoride gels. It was found that retention of fluoride as well as resistance to acid etching was significantly greater in teeth treated with the polyurethane system than with the topical gel. Initial fluoride uptake by enamel was similar after coating with either the fluoride releasing urethane or the topical gel.

3568. A simple automatic conductance bridge for measuring the rates of chemical reactions in solution - Queen A. and Shabaga R. - Dept.

Chem., Univ. Manitoba, Winnipeg - REV.SCIENT.INSTRUM. 1973 44/4 (494-496)

An apparatus is described which automatically records the times at which the resistance of a system undergoing change becomes equal to a series of fixed resistors of known values. The apparatus consists of an ac conductance bridge coupled to a null detector which triggers a stepping switch and a digital clock. This arrangement is particularly suitable for measuring the rates of chemical reactions in solution.

2. BIOPHYSICS AND BIOENGINEERING

3569. A numerical method of matrix spectral factorization - Vostry Z. - Inst. Informat. Theory Automat., Czech. Acad. Sci., Praha - KYBERNETIKA (Praha) 1972 8/5 (448-470)

The spectral factorization of transfer function matrices is an intrinsic problem arising in the optimal control of linear discrete systems

with respect to a quadratic performance index. The presented method is based on the comparison of two approaches - in the time domain and in the frequency domain - to a special control problem.

3570. Molecular mechanisms of the changes of ionic permeability of electroexcited membrane.

III. Inactivation (Russian) - Fishman S.N. and Volkenstein M.V. - Inst. Molec. Biol., Ac. Sci. USSR, Moscow - BIOFIZIKA 1972 17/5 (794-800)

A model of inactivation of Na conductivity of an excitable membrane was considered. The model suggests that an activating particle passing, under the influence of the field, into a state which provides high conductivity of the membrane, then undergoes a physico chemical transformation. The latter is not connected with the redistribution of the charge in the membrane field. The model made it possible to obtain the curve of stationary inactivation, which agreed with the empiric one. A quantitative description of the displacement of the curve with the change of Ca^{++} concentration in the external solution is also given.

3571. A model of biological indeterminacy -

Elsasser W.M. - Inst. Fluid Dynamics Appl. Mathem., Univ. Maryland, College Park, Md. 20740 - J.THEOR.BIOL. 1972 36/3 (627-633)

It is a known mathematical fact that the introduction of statistical indeterminacy by means of quantum mechanics (including statistical mechanics) has not loosened up theoretical physics enough so that theoretical biologists could go essentially beyond reductionism. A different type of indeterminacy, designated biological, is introduced here, which conforms with all the known principles of conventional physics. A biochemical model is suggested that embodies this indeterminacy: the catalytic activity of an enzyme depends critically on its electrical environment, but the local electrical states are in turn determined by the ready mobility, within the tissue, of carriers of both signs. The existence of biological indeterminacy arises then from the vast degree of quantum theoretical near degeneracy of such a system.

2.1. Fundamental concepts

3572. Minimum penalty estimate - Kovanic P. - Inst. Informat. Theory Automat., Czech. Acad. Sci., Praha - KYBERNETIKA (Praha) 1972 8/5 (367-383)

A new generalized discrete linear estimate is introduced, called a minimum penalty estimate from which not only the well known discrete versions of linear estimates such as the Zadeh Ragazzini, Gauss Markov and Semyonov estimates but also some new and more general estimators may be obtained. The usefulness of the generalized estimate consists especially in the possibility of using a priori information to lower the estimating error.

3573. Generalization of pattern recognition method in experiment analysis -

Kindler E. - Biophys. Inst., Charles Univ., Praha - KYBERNETIKA

(Praha) 1972 8/5 (384-394)

A computer method is described for an automatic approximation of experimental data by a sum of exponential functions one of which is negative and the other positive, under conditions of their initial values (the value and the derivative for the argument equal to zero) and under conditions that the exponential functions composing the sum are in their absolute values decreasing. The description of the corresponding method is given in SIMULA 67. The method has been implemented and tested at the computer ODRA1013 (programmed in a symbolic language).

3574. The formulation of state equations for linear nonstationary discrete time system -

Soukup V. - Techn. Univ. Dept. Automat. Contr., Praha - KYBERNETIKA (Praha) 1972 8/5 (419-429)

Two different methods are given for the compact determination of a state space description of a linear nonstationary discrete time system from the scalar difference equation.

3575. Calculation of the stability of cylindrical particles in an electrolyte system -

Yelkin A.P. - Inst. Biol. Phys., USSR Acad. Sci., Pushchino - BIOPHYSICS (Oxford) 1971 16/6 (1065-1071)

The energy of Van der Waals attraction and electrostatic repulsion has been calculated for two cylinders in an electrolyte system. The dependence of the stable distance between the cylinders on the ionic strength of the electrolyte has been obtained and the results calculated are compared with the experimental taking the cross striated muscle as an example.

3576. The concept of equilibrium of systems having legs -

Fomin S.V. and Shtilkind T.I. - Inst. Probl. Informat. Transm., USSR Acad. Scis, Moscow - BIOPHYSICS (Oxford) 1972 17/1 (137-141)

The class of systems using legs is considered. A definition of the concept of equilibrium in such a system is proposed. The general aspects of control ensuring, in particular, the maintenance of equilibrium are discussed.

3577. Freezing of the water content of porous membranes -

Viaud P.R. - Lab. Aerotherm., Dept. Congelat., C.N.R.S., Meudon - CRYOBIOLOGY 1972 9/4 (233-239)

A theoretical and experimental study of the freezing of water in a porous membrane is presented. A membrane is considered as a set of very fine capillaries of radius r and thickness e with a thick ice water interface, consisting of several molecular layers. The effect of the number N of molecules comprising the interface on the melting temperature T is studied in terms of the thermodynamics of small systems. Experimental results on the ice melting point of calibrated membranes are given. It was found that the rate of decrease of the melting point versus pore radius is different from the previous rate by the Kelvin relation, and it is shown that interfacial phenomena have a considerable effect when the pore radius decreases. The problems of freezing the water contained in a very fine capillary were studied as a model of the freezing of living cells, and in particular as a model of the effects of freezing on cell membranes, an

event that is common to all cryobiological problems. Although the experimental and theoretical results presented are not directly transposable to actual living membranes, a model of a semipermeable membrane containing distilled water is examined.

3578. A further note on the probability of disease transmission - Griffiths D.A. - Dept. Biomathemat., Oxford - *BIOMETRICS* 1972 28/4 (1133-1139)

The author deals with the problems of estimating the proportion, p , of infections which will occur in contacts between vectors and hosts assuming that each m host is subjected to n vector contacts. Optimal values of n are tabulated over a wide range of p and m and compared with the asymptotic optima found by the previous authors. Given good prior information as to the value of p the optimal n appropriate to the experimental size m and the prior estimate of p may readily be evaluated. The problem here is akin to that of the estimation of the density of a bacterial suspension on the basis of a quantal response. For the case of poor prior information as to the value of p an approach is suggested which is analogous to the dilution series commonly used in such a situation.

3579. Calculations for a non stationary water pumping process by a two membrane arrangement in the gravitational field - Mazgis B. and Ludwikow F. - Inst. Biol. Biophys., Acad. Agric., Wroclaw - *STUDIA BIOPHYS. (Berl.)* 1972 34/1 (51-61)

A method for calculating a non stationary water flow induced by a gravitational field in a vertically positioned, three compartment, two membrane arrangement was elaborated on the basis of the practical osmotic flow equations of linear thermodynamics. In accord with the applied iterative procedure of solving equations the results of the study were expressed in the form of algorithms, so any interesting flux or other variable quantity may be calculated by means of a digital computer for successive discrete time moments.

3580. Use of gamma distributed transit times and the Laplace transform method in theoretical cell kinetics - Scheufens E.E. and Hartmann N.R. - Finsen Lab., Finsen Inst., Copenhagen - *J.THEOR.BIOL.* 1972 37/3 (531-543)

The theory of a computer method, where the relevant cell kinetic parameters are estimated by fitting a theoretical percentage labelled mitoses curve (PLM curve) to the experimental data is described. The maximum likelihood method is used to obtain the best fit. As a control the theoretical continuous labelling curve (CL curve) calculated from the estimated parameter values, can be compared to the experimental one. A mathematical model of the investigated growing cell population is set up on the basis of a hypothesis concerning the cell kinetics in the population. The hypothesis includes no cell loss, all cells proliferating and the transit times involved independently distributed. The transit times in the compartments G_1 , S , and G_2 of the cell cycle are

chosen to be specified by independent gamma distributions. Mathematical expressions for the theoretical PLM curve and the theoretical CL curve are obtained by use of Laplace transforms.

3581. On the theoretical aspects of tracer exchange in red blood cells - Hansson Mild K. - Johnson Res. Found., Univ. Pennsylvania, Philadelphia, Pa. 19104 - *J.THEOR.BIOL.* 1973 39/1 (183-189)

An analytical solution is presented for isotopic exchange between red blood cells and a finite surrounding medium where the intracellular diffusion is taken into account for two models of the red blood cell, the rectangular and the spherical. The solution is applied on experimental results from the literature with exchange of water, methanol, formamide, urea and ethylene glycol. It is seen that if the diffusion coefficient for those substances is less than 10^{-7} cm²/sec, then the previous assumption about exchange between two well stirred compartments becomes doubtful.

3582. Biophysical investigations of the space near the membrane of human erythrocytes. III. Measurements of conductivity in suspensions of human red cells for determination of ion mobility in the space near the membrane - BIOPHYSIKALISCHE UNTERSUCHUNGEN DES MEMBRANNAHEN RAUMES MENSCHLICHER ERYTHROZYTEN. III. AUSSAGEN ZUR IONENBEWEGLICHKEIT IN MEMBRANNAHE SUSPENDIERTER ERYTHROZYTEN DURCH LEITFAHIGKEITSMESSUNGEN - Wolf H., Glaser R. and Gorziza A. - Sek. Biol., LG Biophys., Humboldt Univ., Berlin - *STUDIA BIOPHYS. (Berl.)* 1973 35/1 (1-12)

With the aid of measurements of conductivity, the behavior of suspensions of erythrocytes was investigated in NaCl saccharose solutions at 50 c.p.s., $20 \pm 0.01^\circ$ C and pH 6.0 ± 0.1 . A functional relationship was found between erythrocyte conductivity and ion concentration in suspension medium. This relationship was qualitatively and quantitatively explained with the assumption of a membrane near space, which differs from the suspension medium in some biophysical parameters. The effective thickness of membrane near space, which was investigated, was found to amount to about 5-15 Å. In this range the cation mobility is decreased 30-40 times and the anion mobility 2-3 times.

3583. Outline of a new approach to the analysis of complex systems and decision processes - Zadeh L.A. - Dept. Electr. Engin., Univ. California, Berkeley, Calif. 94720 - *IEEE TRANS.SYST.MAN CYBERN.* 1973 3/1 (28-45)

The approach described in this paper represents a substantive departure from the conventional quantitative techniques of system analysis. It has three main distinguishing features: use of so called 'linguistic' variables in place of or in addition to numerical variables; characterization of simple relations between variables by fuzzy conditional statements and characterization of complex relations by fuzzy algorithms. A linguistic variable is defined as a variable whose values are sentences in a natural or artificial language. Thus, if tall, not tall, very tall, very very tall, etc. are values of height, then

height is a linguistic variable. Fuzzy conditional statements are expressions of the form IF A and B, where A and B have fuzzy meaning, e.g., IF x is small then y is large, where small and large are viewed as labels of fuzzy sets. A fuzzy algorithm is an ordered sequence of instructions which may contain fuzzy assignment and conditional statements, e.g., $x = \text{very small}$, IF x is small then y is large. The execution of such instructions is governed by the compositional rule of inference and the rule of the preponderant alternative. By relying on the use of linguistic variables and fuzzy algorithms, the approach provides an approximate and yet effective means of describing the behavior of systems which are too complex or too ill defined to admit precise mathematical analysis. Its main applications lie in economics, management science, artificial intelligence, psychology, linguistics, information retrieval, medicine, biology, and other fields in which the dominant role is played by the animate rather than inanimate behavior of system constituents.

3584. An optimal control approach to designing constant gain filters - Wilson K.C. - UCLA, Los Angeles, Calif. 90024 - IEEE TRANSAEROSPACE ELECTRON.SYST. 1972 AES-8/6 (836-842)

This paper applies optimal control theory to designing constant gain filters which minimize a weighted average of the filtered variances. Uniaxial second order motion is studied in detail, and an example is given which indicates that a constant gain filter may be designed with performance comparable to a Kalman filter. An appendix is included which shows how the approach may be extended to higher order systems.

3585. A model for learning and imprinting with finite and infinite memory range - Pfaffelhuber E. - Inst. Inform. Arbeit, Univ. Tübingen - KYBERNETIK 1973 12/4 (229-236)

A generalization of the Bush Mosteller learning model, in the sense of a response strength rationale, can simulate both a finite and an infinite memory range and describe learning as well as imprinting processes, the latter being characterized by the property that earlier observations enter with more weight into the system's response tendencies than later ones. The resulting difference equation for the response probabilities is no longer time invariant. Optimality properties of the model are discussed, in particular with respect to probability learning. Carnap's inductive probabilities are shown to provide a least mean square estimate for a stationary stochastic environment.

3586. On holographic models of memory - Poggio T. - Max Planck Inst. Biol. Kybernet., Tübingen - KYBERNETIK 1973 12/4 (237-238)

By means of the Volterra series an extension of the association properties of holography is proposed. Also, the significance of non linearities embedded within the formal structure of a holographic like associative memory is pointed out.

3587. The Teorell membrane oscillator as a

mechano electric transducer - Meares P. and Page K.R. - Biophys. Chem. Unit, Dept. Chem., Univ. Aberdeen - J.MEMBRANE BIOL. (Berl.) 1973 11/3 (197-216)

The results of a recent quantitative analysis of the Teorell membrane oscillator are utilized to explore its role as an excitability analogue. Special attention is paid to its role as a mechano electric transducer. A membrane of exceptionally well defined pore structure has been used in this study. The analogue properties arise from nonlinear coupling between water and salt fluxes. When the membrane is simultaneously subjected to controlled gradients of hydrostatic pressure, electrical potential and concentration, bi stable stationary states can be produced. These arise from the opposing effects of pressure and electro osmosis on the volume flow. Transitions between these states show hysteresis. The factors governing such transitions are analogous to certain types of stimuli encountered in the natural excitation process. The membrane system also shows oscillatory behavior when the hydrostatic pressure gradient is allowed to vary under constant current conditions. This property is related to the bi stable stationary state phenomena and is compared to the regenerative behavior found in biologically excitable tissues. Particular emphasis is placed upon analogies between the membrane oscillator and certain natural tissues. The importance of the nonlinear nature of the force flux coupling in the analogue is stressed, and its possible relevance to biological excitability indicated. Some consideration is also given to the role of electro osmotic flux coupling in biological tissues.

2.2. Mechanical systems

3588. Theoretical approach to muscle contraction - Descherevskii V.I. - Inst. Biol. Phys., USSR Acad. Sci., Puscino - STUDIA BIOPHYS. (Berl.) 1972 33/3 (157-165)

A mechano chemical approach to the choice of characteristic variables for the description of the cross bridge states in active muscle is proposed.

3589. The problem of modelling joint moments (Russian) - Velikson V.M., Mendelevich I.A. and Pitkin M.R. - Leningrad Res. Inst. Prothet., Leningrad - BIOFIZIKA 1973 18/1 (122-125)

The problems of analytic modelling of control moments providing the regulation of man's vertical posture are examined. A two chain mathematical pendulum having 2° of freedom and stabilized in a proper position of unsteady equilibrium by the control moment is presented as a model. An experimental check up confirmed the correctness of this method of mathematical modelling for solving this problem.

3590. The mechanical testing of bone in bending - Simkin A. and Robin G. - Orthop. Dept., Hadassah Univ. Hosp., Jerusalem - J.BIOMECH. 1973 6/1 (31-39)

A method is described of calculating the bending moment at failure and the modulus of

elasticity in bending of bone when the stress strain curves for tension and compression are given. Cortical bone specimens were tested in tension, compression and three point bending and the results compared with the formulae developed. The effect of several experimental and structural factors on the results is discussed.

3591. Response of joints to impact loading. III. Relationship between trabecular microfractures and cartilage degeneration - Radin E.L., Parker H.G., Pugh J.W. et al. - Orthop. Res. Lab., Harvard Med. Sch., Boston, Mass. 02115 - J.BIOMECH. 1973 6/1 (51-57)

The knee joints of adult rabbits were subjected to daily 1 hr intervals of impulsive loading equivalent to their body weight at 60 cpm. They developed changes in their knee joints consistent with those of degenerative joint disease. The cartilage destruction was preceded by stiffening of the underlying subchondral bone. Numerous healing trabecular microfractures were associated with this increased stiffening. Similar microfractures were observed in human specimens. The implications of these findings to bone remodelling and osteoarthritis are discussed.

3592. Analysis of surface bone strain in the calcaneus of sheep during normal locomotion: Strain analysis of the calcaneus - Lanyon L.E. - Dept. Veter. Anat., Univ. Bristol - J.BIOMECH. 1973 6/1 (41-49)

An investigation is reported in which single element semi conductor and triple element 45° foil rosette strain gauges were attached to the lateral side of the calcaneus in live sheep. Results from the two types of gauge were similar but those from the rosettes allowed calculations to be made of the changing direction and magnitude of the principal strains and the maximum shear strain during locomotion. This represents a considerable increase in the value and amount of information available from these direct measuring techniques. Each stride imposed a definite and characteristic deformation cycle on the bone. On its dorsal side this was primarily compressive and identical in direction and timing in all animals. Strain amplitude and rate of change were comparable to values obtained from other regions in the same species. This agreement tends to support the hypothesis that bone deformation per se may be at least one of the governing stimuli for the remodelling necessary in the maintenance of bone structure and mechanical strength.

3593. Influence of flow and pressure on wave propagation in the canine aorta - Hstand M.B. and Anliker M. - Dept. Mech. Engin., Colorado State Univ., Fort Collins, Colo. 80521 - CIRCULAT.RES. 1973 32/4 (524-529)

Data on wave speed acquired from 20 anesthetized dogs showed that the thoracic aorta was essentially nondispersive for small artificially generated pressure waves traveling in the downstream or the upstream direction and having frequencies between 40 and 120 Hz. The amplitude of these waves decayed exponentially with the distance traveled. The attenuation was independent of frequency and pressure if the

distance was measured in wavelengths. The logarithmic decrement of the downstream waves ranged between 0.7 and 1.0, whereas that of the retrograde waves was between 1.3 and 1.5. The discrepancy in the attenuation for the two directions appeared to be due to the taper of the thoracic aorta. Simultaneous measurements of the transmission times of waves traveling downstream and upstream indicated that small pressure perturbations were convected with a speed that was approximately equal to the mean flow velocity. The speed of such perturbations depended strongly on the aortic pressure level at which they were generated. For normal pressure pulses generated by the heart, the speed of small perturbations at systole might be 30% higher than that at diastole. Theoretical studies have shown that such changes in wave speed due to variations in pressure and flow produce marked nonlinear effects in hemodynamics.

3594. A model of the arterial wall - Goedhard W.J.A. and Knoop A.A. - Lab. Fysiol., Vrije Univ., Amsterdam - J.BIOMECH. 1973 6/3 (281-288)

On segments of thoracic aortae and common carotid arteries, static (Es) and dynamic (Ec) Young's moduli were measured. Three main points were investigated: The visco elastic behavior of the arterial wall as a function of frequency, with special attention to frequencies below 2 Hz. The set up of a model of the arterial wall, matching the obtained data over the appropriate frequency range. The influence of norepinephrine induced smooth muscle contraction on Young's modulus and model outcome. The studied frequency range, except from $f=0$, ran from 0.016-23 Hz. It was found that this range needed an electrical model consisting of at least 4 different RC circuits in series with a capacitance, to describe the visco elastic behavior of the arterial wall. Smooth muscle contraction alters the obtained time constants but these remain of the same order of magnitude. The question of whether muscle contraction has an increasing or a decreasing effect on Young's modulus appears to be dependent on the experimental set up, which is discussed.

3595. The stiffness of the flagella of impaled bull sperm - Lindemann C.B., Rudd W.G. and Rikmenspoel R. - Dept. Biol. Sci., State Univ. New York, Albany, N.Y. 12222 - BIOPHYS.J. 1973 13/5 (437-448)

The elastic rigidity (stiffness) of impaled motionless bull sperm flagella was determined by a manipulatory technique which permitted direct analytical treatment of the experimental system. The effects of external ATP and ADP were measured. It was found that ATP acts as a plasticizing agent, while ADP does not. The stiffness measured for flagella in a medium without ATP was 15 times greater than the value measured with 10 mM ATP present. The rigor like stiffness measured with no ATP present is reversible with ATP and seems to be correlated to a transition in the state of the contractile system.

3596. The innervated left ventricle: a

mathematical model of function - Greene M.E. and Clarke J.W. - Bioengin. Group, Electric. Engin. Dept., Rice Univ., Houston, Tex. 77001 - MED.BIOENGINEERING 1973 11/4 (464-468)

A model of the innervated left ventricle is developed that characterises the left ventricle as a time varying elastance (P/V) element which is a function of both end diastolic volume and frequency of stimulation of the left stellate ganglion. This model is an extension of a denervated model developed earlier and accurately simulates the ventricular responses to various preload and afterload conditions at a given ionotropic state.

3597. Relaxation behavior of collagen - Stefanou H., Woodward A.E. and Morrow D. - Dept. Chem., City Coll., City Univ., New York, N.Y. 10031 - BIOPHYS.J. 1973 13/8 (772-779)

The dynamic mechanical properties of purified collagen from bovine tendon were studied using a torsion pendulum in the temperature range of 120°-360°K at 0.3-1 cps. In the temperature range studied, two loss peaks were observed: a β peak at about 200°K, and an α peak approximately five times larger at about 280°K. The temperature of the α transition is shown to be dependent on water content, decreasing with increasing amount of water and shifting to lower temperatures. Broad line proton magnetic resonance results were also obtained on similar samples. A narrow nuclear magnetic resonance (NMR) line appears at about 250°C. The effects of shrinkage to form gelatin and of cross linking on the relaxation behavior of collagen were also studied. The motions taking place in collagen over the 120°-360°K range are discussed.

2.3. Heat and thermodynamics

3598. Van Der Waals forces between cylinders. II. Retarded interaction between thin isotropic rods - Mitchell D.J., Ninham B.W. and Richmond P. - Dept. Appl. Mathemat., Inst. Advanced Studies, Australian Nat. Univ., Canberra - BIOPHYS.J. 1973 13/4 (370-384)

The authors derive the retarded van der Waals interaction between 2 long thin parallel dielectric cylinders immersed in a solvent. The result shows that the ultraviolet interactions which may be responsible for the specificity of macromolecular interactions do not operate strongly over distances $R \geq 50 \text{ \AA}$. For greater distances the contribution of these frequencies χ_i is damped by a factor, $1 \exp(-\chi_i R/c)$.

2.4. Bioacoustics

3599. Simple scheme of function for the description of the subjective duration of sound impulses and sound intervals - EINFACHES FUNKTIONSSCHEMA ZUR BESCHREIBUNG DER SUBJEKTIVEN DAUER VON SCHALLIMPULSEN UND SCHALLPAUSEN - Burghardt H. - Inst. Elektroakustik, Techn. Univ., Munchen - KYBERNETIK 1972 12/1 (21-29)

The sensitivity functions for the subjective

duration of sound pulses and the intervals between sound pulses were determined with the aid of ratio measurements. It could be shown with reference to these sensitivity functions that both short sound pulses and short intervals between pulses were overestimated relative to the objective duration. This means that the ratio of subjective duration to objective duration is higher for short intervals than for long ones. For pulse durations greater than 800 msec and for intervals between pulses longer than 2 sec, the ratio remained constant with increasing duration. The data determined serve as the basis for a simplified functional scheme, which assumes a temporal pulse transformation: sound pulses are assigned to a DC pulse with the same time form, i.e. the same objective duration, which is then transformed via an integrating (RC) circuit. The 'start' and 'end' of the transformed pulse are redefined at the positive going and negative going crossing of a certain threshold whose position depends on the maximum amplitude of the transformed pulse. The intervals between sound pulses are treated in a similar way (as negative pulses) in a separate channel, starting from the full amplitude state. The time constant of the RC circuit is 200 msec. The validity of the functional scheme was confirmed by a test experiment.

3600. Acuity of the human sound localization response underwater - Feinstein S.H. - Communic. Sci. Lab., Univ. Florida, Gainesville, Fla. 32601 - JACOUST.SOC.AMER. 1973 53/2 (393-399)

Minimum Audible Angles (MMA) for divers were determined for 3.5 kHz, and broad band white noise pulses having a duration of 100 msec, a rise decay time of 10 sec, and a repetition rate of 1/sec. In Expt. 1 six divers performed the right left discrimination with no training or feedback and the mean MAAs obtained were 21.5° for the 3.5 kHz signal, 14.5° for the 6.5 kHz signal, and 9.8° for the white noise signal. In Expt. 2 four of the original 6 divers were given feedback from their performance with the white noise signal at a single small angle. The mean MAAs obtained after training were 11.3° at 3.5 kHz, 11.5° at 6.5 kHz, and 7.3° with white noise. It was concluded that if one assumes that the MAA reflects the general level at which the binaural system operates then it seems likely that man will be an effective sound navigator in the water.

3601. Sounding mechanism of singing sand - Takahara H. - Dept. Phys., Fac. Sci., Chiba Univ., Chiba - JACOUST.AMER. 1973 53/2 (634-639)

The musical sound from the singing sand was observed with a synchroscope, and the frequency analysis was performed. With repeated application of forces the musical sound from the singing sand decreases and finally disappears. Recovery of the musical sound from such wasted singing sand was tried. For the purpose of investigating the character of the particles of the singing sand, the noise wave emitted from it under a large load was studied. It is concluded that the characteristics of noise wave from the singing sand depends on the friction properties of the sand particles of comparatively uniform sizes and of smooth surfaces. This fact seems to be

closely related to the mechanism of musical sound emission from the singing sand.

3602. Acoustic effects on gas bubbles in the flows of viscous fluids and whole blood - Macedo I.C. and Wen Jei Yang - Dept. Mech. Engin., Univ. Michigan, Ann Arbor, Mich. 48104 - JACOUST.SOCAMER. 1973 53/5 (1327-1335)

Gas bubble behavior in a liquid flowing inside a circular tube subjected to an acoustic pressure field is studied analytically and experimentally. Consideration is given to both viscous fluids and whole blood, with the effects of acoustic radiation and viscosity taken into account. Slug flow and laminar parabolic flow cases are treated. Analytical solutions are obtained which predict the trajectory of bubble motion and the location where the bubble can be brought to a standstill on the tube wall by the acoustic force. It is disclosed that the trajectory is strongly dependent upon the acoustic pressure amplitude, flow velocity, and liquid viscosity. By either increasing the acoustic pressure amplitude or decreasing the flow velocity or liquid viscosity, the bubble can be brought to a standstill in the first half wavelength from the tube entrance, at the node or antinode depending upon its size. The theory is in good agreement with experiments performed in water and SEPARAN AP30 polymer solutions. The latter fluids resemble whole blood in rheological properties.

3603. Analysis and measurement of ultrasound backscattering from an ensemble of scatterers excited by sine wave bursts - Sigelmann R.A. and Reid J.M. - Dept. Electr. Engin., Univ. Washington, Seattle, Wash. 98105 - JACOUST.SOCAMER. 1973 53/5 (1351-1355)

This paper develops a practical approximation for the backscattering of periodic bursts of sine waves by a volume of randomly distributed scatterers. The approximation is applied to the measurement of a volumetric backscattering cross section, using a substitution method in which the rms value of the gated backscattered signal is compared with the rms value of a wave reflected from a target of known coefficient of reflection. It is shown that the signal backscattered from the ensemble depends on the attenuation of the wave in the volume and upon the burst and gate lengths. An equation to obtain the volumetric backscattering cross section from experimental data is derived.

3604. Localization of high and low frequency transients - Banks M.S. and Green D.M. - Psychol. Dept., Univ. California, San Diego, La Jolla, Calif. 92037 - JACOUST.SOCAMER. 1973 53/5 (1432-1433)

Subject's ability to localize transient signals presented in a free field depends primarily on low frequency energy. The minimum audible angle is about $3/4^\circ$ for all transients containing energy below 2000 Hz.

2.5. Biooptics

3605. Effect of selective adaptation on detection of simple and compound parafoveal stimuli - Kerr L.G. and Thomas J.P. - Dept. Psychol., UCLA, Los Angeles, Calif. 90024 - VISION RES. 1972 12/8 (1367-1379)

Detection thresholds for peripherally viewed circular stimuli with diameters ranging from 0.5 to 4° were measured before and after adaptation with 1.5 , 2.5 and 3.5° circular stimuli. Thresholds were also measured for compound stimuli, formed by superimposing 1 , 2 , 3 and 4° stimuli upon a 4° stimulus, both before and after selective adaptation. The results indicate that an adaptation stimulus is most effective in reducing the visibility of stimuli nearest in size to the adaptation stimulus, but when the adaptation stimulus differs in size from the test stimulus, the effect is reduced and in some cases reversed. The results are discussed in terms of their implications for certain models of spatial integration in vision.

3606. Visual brightness: some applications of a model - Marks L.E. - John B. Pierce Found. Lab., New Haven, Conn. 06519 - VISION RES. 1972 12/8 (1409-1423)

Several models have postulated networks analogous to electrical filters in order to account for neurophysiological and psychophysical behavior of the visual system. A filter system that contains inhibitory feedback, such as those postulated by Fortes and Hodgkin and by Sperling and Sondhi, can be used to account for the cube root relation that typically obtains between judged brightness and intensity of light flashes. Elaboration of the model in terms of lateral facilitation and lateral inhibitory feedback enables it to account for differences among brightness intensity functions measured at different retinal loci. The same type of elaboration may also help to account for the way brightness depends on stimulus area.

3607. Brightness contrast and evoked potentials - Regan D. and Richards W. - Dept. Communicat., Univ. Keele - JOPT.SOCAMER. 1973 63/5 (606-611)

The amplitude of the evoked potential (EP) generated by an oscillating checkerboard pattern remains constant, even through the brightness contrast of the checks may be significantly altered by changing fixation distance without altering retinal subtense. On the other hand, when the pattern is slightly blurred, the brightness contrast of small checks is changed only slightly, whereas the EP undergoes marked attenuation. Such a double dissociation between brightness effects and the EP shows that steady state EP amplitude may be a very poor measure of brightness contrast, at least when the sensations are considerably above threshold. For suprathreshold stimuli, check size may also affect brightness contrast and the steady state EP amplitude in different ways. Moderate blurring may increase the amplitudes of large check EPs, while attenuating small check EPs. Interactions between blurring and pattern size could thus lead to large systematic errors in EP refraction procedures.

3608. Area effects and the rapid threshold decrease in early dark adaptation - Baker H.D. - Dept. Psychol., Florida State Univ., Tallahassee, Fla. 32306 - J.OPTSOCAMER. 1973 63/6 (749-754)

At the beginning of dark adaptation there is a sudden decrease of threshold that appears distinct from the subsequent course of regular dark adaptation. The present research indicates that the decrease cannot be a result of losing the lateral inhibitory effects that occurred during the light adaptation prior to dark adaptation. The results thus imply that the early threshold drop must be based on a process somewhere in the direct line from receptor to higher centers.

3609. Lack of antisymmetry in metamerism - Gugerli U.J. - Sandoz Ltd., Dyestuffs/Chem. Div., Res. Dept., Basle - J.OPTSOCAMER. 1973 63/6 (755-760)

Metamerism, with reference to an arbitrary pattern and any ternary combination of colorants suitable for matching its color, is generally not antisymmetrical with respect to any pair of illuminants. For the exceptional case of antisymmetry, the prerequisite, necessary, and sufficient condition is formulated. There are, therefore, two measures of metamerism, and not one. These two measures are vectors that differ both in sign and generally in absolute value of all three components. A priori, there is no reason to prefer any one of the two measures of metamerism but there may be technical reasons for doing so. Formulas are deduced for the practical computation of both of these vectors. These are applicable even when the colors of the samples differ in both of two illuminants.

2.6. Gas physics

3610. Simulation of the ventilatory dead space - SIMULATION DE L'ESPACE MORT VENTILATOIRE - Halleux J. - Dept. Physiol. Hum. Norm. Pathol., Inst. Leon Fredericq, Univ. Liege - J.PHYSIOL. (Paris) 1972 65/3 (421)

The dead space relative to each of the gaseous exchange chambers was divided into a definite number of small volumes according to a pre determined law. In each of these compartments, the speed of diffusion was assumed to be infinite; moreover, intercommunication between these volumes was governed only by the exchanged quantities at each stage of integration of the differential equations describing the system. Thus, by the effect of the volumetric mean, the importance of the profile and of the control of the flow of the fluid stream becomes more blurred as the dead space is divided into a smaller number of compartments. A minimum 'diffusion' across the dead space is imposed by the relationship between the number of integration stages in a respiratory period and the number of parts dividing the dead space. The morphology of the curves obtained by this new model compares well with that of the curves obtained by physiological methods.

2.7. Fluid flow systems

3611. Pressure development in a non Newtonian flow through a tapered tube - Oka S. - Dept. Phys., Keio Univ., Yokohama - BIORHEOLOGY 1973 10/2 (207-212)

The flow of viscous fluids through a tapered tube is very interesting from the standpoint of blood flow in blood vessels. The taper of the tube is an important factor in the pressure development. In the first place, the author has given a brief summary of his theory of the steady convergent flow of non Newtonian fluids characterized by an arbitrary time independent flow curve through a slightly tapered tube. Based on the general formula for the flow per unit time, explicit formulae of the pressure gradient are obtained in several cases of non Newtonian fluids specified by particular flow curves: power law fluid, Bingham body, and the fluid obeying Casson's equation. In all these cases it is shown that the pressure gradient is not constant along the axis but increases with decrease in the radius of the tapered tube. If one discounts quantities of order α^2 (α : angle of taper), then the pressure gradient increases linearly with the distance along the axis of the tube.

3612. Switching properties in bubbles, balloons, capillaries and alveoli - Crane H.D. - Stanford Res. Inst., Menlo Park, Calif. 94025 - J.BIOMECH. 1973 6/4 (411-422)

Devices made of curved elastic membranes can exhibit switching properties similar to those of neon bulbs, tunnel diodes, and other electronic devices having N shaped current voltage characteristics. It is the existence of a negative slope region in the pressure volume characteristic - called the negative resistance region in electronics - that produces this switching behavior. Negative slope regions are found in the pressure volume curves of soap bubbles, common rubber balloons, blood vessels, and the alveoli of the lungs. The basis of the negative slope region is discussed, and some of the relevant literature dealing with on off (or open closed) switching control in the circulatory and respiratory systems is reviewed. It is shown that the abrupt switching that occurs in connection with an N shaped pressure volume curve is characteristic of normal physiological functioning.

3613. Importance of physical factors on the process of formation of urine in Henle's loop (mathematical modelling) - Bagrov Y.Y. and Kislyakov Y.Y. - Sechenov Inst. Evol. Physiol. Biochem., USSR Acad. Sci., Leningrad - BIOPHYSICS (Oxford) 1972 17/5 (918-926)

Using a mathematical model written in the form of a set of differential equations in partial derivatives the authors have selected the parameters characterizing the permeability of the wall of the descending limb of the loop of Henle for H_2O and the level of active transport for the ascending limb. The role of hydrostatic pressure in the efflux of fluid from the interstitium into the capillaries is shown. The model is used to make a quantitative study of the dependence of

the osmotic concentration in Henle's loop and the interstitium on such parameters as the rate of inflow of the fluid from the proximal tubule, the level of active transport and the length of the loop of Henle.

2.8. Electrical systems

3614. Effect of the rate of spread of excitation on the mode of work of an ensemble of neurones - Shcherbunov A.I. - Moscow Physicotechn. Inst., Moscow - BIOPHYSICS (Oxford) 1972 17/1 (107-114)

For an ensemble of neurones the behavior of which is described by a set of non linear differential equations, three modes of work have been established. After an external stimulus each neuron releases one impulse in the first mode. Some of the neurones release one impulse but some two or more in the second mode. All the neurones put out an infinite periodic sequence of impulses in the third mode (reverberator mode). The particular mode observed depends on the speed of spread of excitation.

3615. On the oscillatory potentials of the human electroretinogram in light and dark adaptation. I. Thresholds and relation to stimulus intensity on adaptation to short flashes of light. A Fourier analysis - Algvere P., Wachtmeister L. and Westbeck S. - Dept. Ophthalmol., Karolinska Hosp., Stockholm - ACTA OPHTHAL. (Kbh.) 1972 50/5 (737-759)

The oscillatory potentials of the human ERG were studied in response to a series of three short light flashes of high luminance, the first two flashes conditioning a varying light adaptation of the retina. The energy and dominant frequency of the oscillatory response were evaluated mathematically by a combined impulse response and Fourier analysis. Most prominent oscillations were elicited when the retina was light adapted by strong conditioning flashes and stimulated at intervals of 30 sec or 1 min. The maximal intensity of stimulus light ($\log I(s) = 0$) was about 5×10^4 photopic candelas/m². The scotopic b wave was evoked at threshold by a stimulus intensity of $\log I(s) = -6.0$. A distinct photopic b wave was recorded at $\log I(s) = -4.0$ and the a wave at $\log I(s) = -3.3$. Traces of oscillatory potentials were found at $\log I(s) = -3.3$ and $\log I(s) = -3.0$ in different experiments, thus approximately at the same intensity as the a wave. There was a linear increase of the energy of the oscillatory potentials on augmentation of stimulus intensity over three log units. Peak latencies of oscillatory potentials showed a fairly uniform shortening (about 6 msec) on increasing stimulus intensity provided that the retinal light adaptation was kept constant, and the dominant frequency of the oscillatory response remained within 120-130 Hz. When the retinal adaptation to light was increased by stronger conditioning flashes, peak latencies for the first and second oscillatory peak diminished, those for the third and fourth peak showing no significant change. Then, the dominant frequency of the oscillations declined from about 155 Hz (in dark adaptation) to about 110 Hz (in light adaptation). It was

found that the peak latencies of the oscillatory potentials are defined by the stimulus intensity, but the frequency of this response varies with the state of retinal neural adaptation caused by short flashes of light.

3616. Semiautomatic quantification of sharpness of EEG phenomena - Walter D.O., Muller H.F. and Jell R.M. - Dept. Physiol., UCLA, Los Angeles, Calif. 90024 - IEEE TRANS.BIO-MED.ENGNG 1973 BME 20/1 (53-55)

A method of semiautomatic quantification of sharpness of EEG phenomena is described. The rectified second derivative of the original EEG tracing is utilized for this purpose and has proven satisfactory in connection with the type of question asked. The method is inexpensive and easy to carry out.

3617. Instrumentation for the measurement of the piezoelectric effect in bone and collagen - Bur A.J. - Dent. Res. Sect., Nat. Bur. Stds, Washington, D.C. 20234 - J.DENT.RES. 1973 52/Spec.Nr (605)

Recently, attention has focused on the phenomenon of piezoelectricity in bone because the effect can be used as a tool to study mechanical and electrical properties and because it is suggested that the phenomenon plays a role in osteogenesis. In order to fill a gap in knowledge of the piezoelectric effect in bone and collagen, instrumentation has been designed with which we can study the effect over a wide range of frequency, temperature and humidity. The system consists of a piezoelectric ceramic driver which imparts a stress to the sample, a circuit to detect the generated piezoelectric voltage, and a circuit to measure the phase angle between applied stress and piezoelectric sample voltage. The generated piezoelectric voltage is not measured directly, but instead a signal of opposite polarity is applied to the sample electrodes so that a null or zero volts across the sample exists. Measurement of the phase angle will permit an observation of relaxation phenomena. By judicious selection of sample and electrode configurations, tension and shear effects can be distinguished. Simultaneous measurement of the mechanical modulus is made by using a displacement transducer to measure the sample strain. The frequency range of interest is from 10^{-3} Hz to 10^3 Hz.

3618. Polarons and conformons - Kemeny G. and Goklany I.M. - Dept. Biophys., Michigan State Univ., East Lansing, Mich. 48823 - J.THEOR.BIOL. 1973 40/1 (107-123)

An adequate theoretical explanation of the semiconductive properties of biological substances has been lacking for a long time. The electrical conductivity of some of these substances shows high values, inexplicable on the basis of usual semiconductor theories, and compensation rule behavior. This paper provides a semiquantitative theory for these problems in terms of an entropic advantage the activated charge carrier states may have with respect to the ground state, thus leading to high activated carrier densities. It is also shown that this entropy can be proportional to part of the activation energy, and this provides a compensation rule. The ideas expressed in this

paper are related to those recently advanced by Volkenstein for somewhat different purposes.

3619. Evoked potentials in artificial neural nets - Anninos P.A. - Dept. Biomathemat., Anat. Neuropsychiat. Inst., UCLA, Los Angeles, Calif. - *KYBERNETIK* 1973 13/1 (24-29)

A neural net model of discrete populations of formal neurons have been constructed to study evoked potentials based on the previous simulation studies (Anninos, 1972). Some interesting results came up from the examination of findings regarding the latencies and the period of the cyclic activity of the evoked potentials. In fact, the different successive latencies for the five identical stimuli and the different periods for each of the cyclic activities, all are consequences of inhibitory and excitatory influences from a large neuronal population. Furthermore, such behavior of the system is not only related to the unknown neuronal population but was also substantially altered by what occurred in other systems at the time of stimulus, or prior to it.

3620. Linear models for biological transducers and impulse train spectra: General formulation and review - Coggs J.C. - Dept. Neurosci., Univ. California, La Jolla, Calif. - *KYBERNETIK* 1973 13/1 (30-37)

Starting with the assumption that the output of a biological transducer is the linear sum of discrete waveshapes, then under appropriate conditions, such a system may be modified by a transfer function whose input is a train of delta functions. The transfer function is obtained by averaging over the population of possible waveshapes. The representation of the input as a train of delta functions facilitates the calculation of its frequency power spectrum. A number of examples of possible physiological interest are given.

3621. Branch input resistance and steady attenuation for input to one branch of a dendritic neuron model - Rall W. and Rinzel J. - *Mathemat. Res. Branch, Nat. Inst. Arthrit. Metab. Digest. Dis., NIH, Bethesda, Md. 20014 - BIOPHYS.J.* 1973 13/7 (648-688)

Mathematical solutions and numerical illustrations are presented for the steady state distribution of membrane potential in an extensively branched neuron model, when steady electric current is injected into only one dendritic branch. Explicit expressions are obtained for input resistance at the branch input site and for voltage attenuation from the input site to the soma; expressions for AC steady state input impedance and attenuation are also presented. The theoretical model assumes passive membrane properties and the equivalent cylinder constraint on branch diameters. Numerical examples illustrate how branch input resistance and steady attenuation depend upon the following: the number of dendritic trees, the orders of dendritic branching, the electronic length of the dendritic trees, the location of the dendritic input site, and the input resistance at the soma. The application to cat spinal motoneurons, and to other neuron types, is discussed. The effect of a large dendritic input resistance upon the amount of local

membrane depolarization at the synaptic site, and upon the amount of depolarization reaching the soma, is illustrated and discussed; simple proportionality with input resistance does not hold, in general. Also, branch input resistance is shown to exceed the input resistance at the soma by an amount that is always less than the sum of core resistances along the path from the input site to the soma.

3622. Intracellular biopotentials during static extracellular stimulation - Klee M. - *Mathemat. Res. Branch, Nat. Inst. Arthrit. Metab. Digest. Dis., NIH, Bethesda, Md. 20014 - BIOPHYS.J.* 1973 13/8 (822-831)

Two properties of the intracellular potentials and electric fields resulting from static extracellular stimulation are obtained for arbitrarily shaped cells. First, the values of intracellular potential are shown to be bounded by the maximum and minimum values of extracellular potential on the surface of the cell. Second, the volume average of the magnitude of intracellular electric field is shown to have an upper bound given by the ratio of the magnitude of the largest extracellular potential difference on the surface of the cell to a generalized length constant λ . The use of the upper bound on the volume average of the magnitude of intracellular electric field as an estimate for intracellular isopotentiality is discussed and the use of the generalized length constant for electrically describing arbitrary cells is illustrated for cylindrical and spheroidal shaped cells.

3. GENERAL INSTRUMENTATION

3623. Stepping motor control with TTL and LSL modules. Part 2 - *SCHRITTMOTORSTEUERUNGEN MIT TTL UND LSL BAUSTEINEN. 2. TEIL - Blomeyer P. - ELEKTRONIK* 1972 21/12 (425-427)

The first part of this article appeared in *Elektronik* 1972, 21/11, 379-382 and dealt with the general conditions of stepping motor controls and a description of an original circuit for universal application. The article described the power supply, driver, impulse shaper and oscillator. A description is given of the counter and start stop circuit. Finally data are given on the combination of the various circuits.

3624. A microwelder for the preparation of electron microscope central wire beam stopping apertures - Brown J.N. - Dept. Physiol., Univ. Med. Sch., Edinburgh - *J.MICROSC.* 1972 96/3 (393-395)

A simple capacitor discharge microwelder is described together with a method for the preparation of electron microscope central wire beam stopping apertures.

3625. The chemofusor: a new apparatus for maintaining continuous intra arterial infusion chemotherapy - Burn J.I. and Gains E. - Dept. Surg., Hammersmith Hosp., London - *BRIT.J.SURG.* 1973 60/5 (375-377)

A new apparatus for continuous intraarterial infusion cancer chemotherapy in ambulant

patients is described.

3626. Practical stereoscopic projection - Sparks G. - Dept. Ophthalmol., Marshfield Clin., Marshfield, Wis. 54449 - AMER.J.OPHTHAL. 1973 75/5 (897)

Stereoscopic projection is provided by using two ordinary projectors with a polaroid filter in front of each of the projector lenses. For stereoscopic viewing, the transparencies are projected onto a lenticular screen, the images are superimposed, and viewed through polaroid lenses.

3.1. Transducers

3627. Automated calibration of blood pressure signal conditioners - Martin R.W., Weil M.H., Shubin H. et al. - Shock Res. Unit, Univ. South. California Sch. Med., Los Angeles, Calif. 90027 - IEEE TRANS.BIOMED.ENGNG 1973 BME 20/1 (55-58)

A system for automatic calibration of blood pressure transducers is described. Automatic calibration is accomplished by activation of an analog controlled servo system that sets the zero balance and gain in a single sequence. An unlimited number of transducers may be calibrated simultaneously, and calibration is completed within a period of less than 1 min. Accuracy and repeatability are assured without dependence on the operator's judgment.

3628. Circuit which gives a linear output from a variable capacitance displacement transducer - Searle B.N., Matthews B. and Hilton P.B. - Dept. Physiol., Med. Sch., Univ. Walk, Bristol - MED.BIOENGINEERING 1973 11/3 (354-355)

Capacitive transducers have the advantage that the load which has to be applied to the system being measured can be kept to a minimum, but they suffer from the disadvantage that capacitance is not a linear function of the separation of the plates. This disadvantage can be overcome by forming a differential capacitor with three plates or by using a simple two plate system with a linearising circuit. Such a circuit is described in detail.

3.2. Amplifiers

3629. Phase locked loop: A versatile technique - PHASE LOCKED LOOP: EINE VIELSEITIG EINSETZBARE TECHNIK - Mallon D. - Abt. Analoge INTEGRIERTE Schaltungen, Unternehmensber. BAUELEMENTE, Siemens AG, Munchen - INTELEKTRON.RUNDSCH. 1972 26/10 (227-231)

The author thoroughly describes the design and operation of a phase locked loop circuit, and then discusses its applications in coilless filters, FM demodulators, frequency dividers, and stereo decoders.

3630. Low power complementary circuits for low supply voltages. Part 2 - LEISTUNGSARME KOMPLEMENTARSCHALTUNGEN FUR KLEINE SPEISESPANNUNGEN. 2. TEIL - Kraft W. - ELEKTRONIK

1972 21/12 (429-431)

The first part of this article appeared in Elektronik 1972, 21/11, 389-392 and described the fundamentals of low power circuits using complementary transistors. Particular attention was given to various multivibrators, pulse frequency modulators and Schmitt triggers. In the present article low power amplifiers and oscillators are described.

3631. An automatic DC level compensation circuit for electrophysiology - Allen G.I. and Toyama K. - Dept. Physiol., Sch. Med., State Univ. New York, Buffalo, N.Y. 14214 - IEEE TRANS.BIOMED.ENGNG 1973 BME-20/1 (58-60)

A circuit is described that compensates for dc shifts at the input of a high input impedance preamplifier used for microelectrode recording. The compensation is made by a negative feedback potential in series with the input. Although the whole recording system operates on an ac basis during automatic compensation, dc recording is possible by suspending further changes in the compensation.

3632. Servo and driving motors with electronic control - STELL- UND ANTRIEBSMOTOREN MIT ELEKTRONISCHER STEUERUNG - Grimm O. - ELEKTRONIK 1973 22/3 (89)

The author had previously reported on experiments with electronically controlled servo motors with an alternating magnetic field and a constant magnetic field. On the basis of the findings a new motor was built, of a size that appeared to be the most suitable. At first the additional torque in the manner of a repulsion motor was regarded as objectionable, but this led eventually to successful experiments with electronically controlled repulsion motors.

3633. Origin distortion of the operational amplifier - NULLPUNKTFEHLER DES OPERATIONSVERSTARKERS - Kunzel R. - Zentra A Burkle KG, Schonaich (Wurt.) - INTELEKTRON.RUNDSCH. 1973 27/6 (123-126)

The first part of the essay generally discussed the operational amplifier as well as the causes and definitions of the magnitudes of error. Now, in the second part, the author gives an example of the operational amplifier as an integrator and discusses compensating circuits for offset current and offset voltage as well as the measurement of origin distortions.

3634. More applications for the 741 type op amp - Beach E. - McGraw Hill Continuing Educ. Cent., Washington, D.C. - ELECTRONICS 1973 46/13 (114)

The large common mode rejection ratio of the popular 741 type op amp makes it possible to realize a variable gain amplifier and even an analog switch quite inexpensively. The gain of an op amp can easily be changed by varying the proportion of the signal applied to both its inputs. If equal signals exist at each input, there is no output because of the op amp's common mode rejection, but applying more signal to one input than the other will result in useful gain.

3635. Varistor voltage divider improves receiver agc - Salvati M.J. - Sony Corp. America, Long

Island City, N.Y. - *ELECTRONICS* 1973 46/13 (113)

Adding a varistor to the automatic gain control circuitry in a communications receiver is a simple way to improve output signal leveling. The varistor and a fixed resistor make up a variable voltage divider that is placed between the rf amplifier and the age rectifier. This arrangement improves the effectiveness of the age circuitry because the percentage of the age voltage applied to the controlled rf amplifier stage varies in the same direction as the input signal level.

3.5. Generators

3636. A note on the efficiency of reflection amplifiers and locked oscillators - Choyke W.J. and Patrick L. - Res. Develop. Cent., Westinghouse Electr. Corp., Pittsburgh, Pa. 15235 - *PROC. IEEE (N.Y.)* 1972 60/9 (1112-1113)

The dc to RF conversion efficiency for reflection amplifiers and locked oscillators employing negative resistance devices such as transferred electron effect and avalanche diodes is discussed. It is shown that one particular definition of efficiency is more appropriate than another definition sometimes employed.

3637. Design of shift register delays for random asynchronous data input - Porges K.G. and Rudnick S.J. - Argonne Nat. Lab., Argonne, Ill. 60439 - *NUCLINSTRUM.METH.* 1972 103/1 (157-165)

The utilization of shift registers for purposes of providing fixed and stable delay in nuclear data processing is illustrated by two specific applications, one requiring delays of the order of seconds and the other requiring delays in the microsecond range. In the first case considered, the chief problem is to provide the capability of handling large random rates without undue digital dropout loss, in a device which does not require an excessive number of shift register bits. The solution proposed is a combination of cyclically operated parallel tracks with derandomizers. In the second case the required delay can be produced with a relatively modest number of bits, but the problem to be overcome is the limited time resolution of the device, determined by the minimum shifting period. This is shown to be amenable to improvement through a staggered shifting system which allows a subdivision of the shift period.

3638. A VLF power generator for special pulse shapes - EIN NF LEISTUNGSPULSGENERATOR ZUR ERZEUGUNG SPEZIELLER IMPULSFORMEN - Fasold D. and Koch J. - Inst. Hochfrequenztechn., TH, Darmstadt - *INTELEKTRON.RUNDSCH.* 1972 26/10 (232-237)

Presented is a power generator producing 0.004 to 100 pulses per second of four different basic shapes with the aid of an analog digital control circuit. The pulse types differ in amplitude, rise and fall times, duty cycle, and repetition frequencies. These parameters are independently continuously variable and provide a large spectrum of pulse shapes. High operating reliability is achieved by the development of a

largely digital circuit using monolithic IC. Various trigger options add to the versatility of this experimental set.

3639. Visual zero beat indicator uses reverse polarity LEDs - Graf C.R. - Kelly AFB, San Antonio, Tex. - *ELECTRONICS* 1973 46/6 (119)

Two light emitting diodes connected in parallel, but with opposing polarities, make an inexpensive display for indicating zero beat frequency. The display can be driven by an audio frequency voltage. A current limiting resistor protects both the LEDs from overload. When the input frequency is more than 1 kilohertz away from the zero beat frequency, both LEDs appear to be on all the time.

3640. IC timer plus resistor can produce square waves - Orrel S.A. - *ELECTRONICS* 1973 46/13 (130)

An inexpensive square wave generator can be put together quickly by using the 555 type timer. With only one external resistor, this circuit can be made to generate fairly accurate square waves.

3641. IC timer's duty cycle can stretch over 99% - Robbins M.S. - *ELECTRONICS* 1973 46/13 (129)

The duty cycle range of the 555 type timer IC can be extended by providing independent charging and discharging paths for the timing capacitor. With the circuit suggested for an astable rectangular pulse generator, the duty cycle can be adjusted from about 0.01% to almost 50%.

3642. Regulating high voltages with low voltage zeners - Coers G. - Texas Instrum., Components Group, Dallas, Tex. - *ELECTRONICS* 1973 46/13 (113-114)

A regulator for a high voltage power supply can be built with a low voltage zener acting as the reference voltage source. The output of this regulator circuit can be adjusted between 50 and 250 volts, and regulation is typically 0.5%. The circuit is particularly useful when operational amplifiers cannot be employed because the low voltage positive and negative supplies needed to power them are not readily available.

3.6. Telemetric devices

3643. Temperature transmission from biopotential radiotelemetry transmitters - Morhardt J.E. - Dept. Biol., Washington Univ., St Louis, Mo. 63130 - *JAPPL.PHYSIOL.* 1972 33/3 (397-399)

Most biopotential radiotelemetry transmitters can be readily modified to transmit temperature simultaneously with biopotential information. This is accomplished by adding to the biopotential transmitter a small inexpensive blocking oscillator or multivibrator circuit which senses temperature with a thermistor and modulates the radiotransmitter at a frequency other than that necessary for interpreting the biopotential. When the combined signal is received, the temperature and biopotential information are separated by filters and routed to appropriate recorders. Two such circuits suitable for use when recording

electrocardiograms are described with design information included which will facilitate modification for specific applications.

3644. Telemetric measurement of local blood flow by heat conduction probes - Priebe L. - Dept. Physiol., Univ. Marburg/L. - BIOTELEMETRY INT.SYMP. 1972 (65-72)

By electrically heating the interior of a small metal probe, a temperature difference is produced between it and a neighboring probe. The probes are located in or on the surface of perfused tissue. When the heating is constant, the stationary temperature difference, measured by a thermocouple, varies according to the convective heat transport which is determined by the blood flow in the vicinity of the heated probe. The problem of the amplifying of very low voltages arises with the telemetric transfer of the varying thermovoltage and considerable difficulties are involved. To cope with this, heating of the one probe is effected with a square pulse current, the amplitudes and intervals of which remain constant. The pulse frequency, the heat energy of the pulse rate appearing in a servosystem as a correcting element, is automatically varied in such a way that the temperature difference between the two probes is constant in the case of varying heat transport or varying blood flow. The square pulse rate, varying in frequency, modulates a carrier of approx. 434 MHz. Two very small NTC resistances are positioned in the control device as sensors of temperature difference. These are present in the neighboring arms of a Wheatstone bridge, activated by the same square pulse current as heating. The bridge is balanced except for a small diagonal voltage, when the temperature difference between the probes is at the programmed constant value. If an error in the constant temperature difference occurs because of varying blood flow, the first result is an altered diagonal voltage. This brings about an emission of the square pulse rate from the heat generator at a greater or small frequency, depending on the direction of the variation of the temperature difference. The result is the rapid disappearance of the primary error.

3645. Telemetric transmission of ergonomical and time study data to describe work load of radar controllers - Laurig W. and Rohmert W. - Inst. Arbeitswissenschaft., Univ. Technol., Darmstadt - BIOTELEMETRY INT.SYMP. 1972 (397-405)

The aim of ergonomics research is to analyze the complex relations between man and work. The main purpose of such analysis is an optimal adaptation of the system elements 'man' and 'work'. These work activities should have regard both to the demands of human well being and to economy. The most difficult problem in the analysis of man machine systems is the assessment of the work load of the operator, due to the fact that he is very often the weakest element of the system. The methodologic difficulties are evident because each act of the investigation has to be done with a minimum of interference with the relations between man and work. Furthermore a minimum of stress for the subject has to be aimed at. Thus the development

of suitable telemetric methods is essential for practicable execution of an ergonomics field study. By reference to an actual problem in which the task and work load of radar controllers are analysed the application of telemetric methods for data acquisition is demonstrated. To distinguish between factors of stress and strain, data describing the work situation (e.g. number of aircraft controlled, difficulty of the situation) have to be collected as well as suitable physiological parameters (e.g. ECG, EOG). It is shown that telemetric systems need to be integrated in a data processing system to handle the amount of data transmitted by multi channel systems. In conclusion an example comparing stress and strain factors is cited.

3646. Multidimensional coding for telemetric transmission of work load factors in ergonomics research - Rosenbrock F. and Rohmert W. - Inst. Arbeitswissenschaft., Univ. Technol., Darmstadt - BIOTELEMETRY INT.SYMP. 1972 (389-396)

In ergonomics research a synchronous multidimensional study of the work process is required for the interpretation of psychophysiological reactions of the worker. To use a computer's aid in analyzing these studies data are required to be in a digital coded form. A prime advantage of telemetric transmission of the psychophysiological data is that it enables the worker to move around free of cable. To maintain this advantage, the coding of the work process must be transmitted too. The coding, presented in this paper, renders the transmission of 4 independent parameters each classified in 10 steps. The selected code, representing a certain combination of task and work load, modulates an FM transmitter by pulse distance modulation. The received and demodulated signal is in a form suitable for recording on a tape recorder. After pdm demodulation an electronic counter reads out the selected codes. Thus, it is possible to punch the code automatically and synchronously with the psychophysiological data. By the example of a field study the advantages of this multidimensional digital work process study are demonstrated and some results are discussed.

3647. Telemetry and ergometry associated to the measure of oxygen consumption during sports events - Deroanne R., Pirnay F., Servais J.C. and Petit J.M. - Inst. Ernest Malvoz, Liege - BIOTELEMETRY INT.SYMP. 1972 (101-110)

The absolute and relative work performed by football players and racing cyclists was assessed on the basis of certain laboratory results and measurements of heart rate carried out on these athletes in competition and in training. Due to the great physical expenditure demanded by football playing and cycling, special care must be exercised in selecting a player or a racer and in conducting the subsequent physical training.

3648. Telemetering of various parameters from restrained small animals in the normal activity rest cycle - Ayivorh S.C. and Photiades D.P. - Biophys. Res. Unit, Fac. Pharm., Univ. Sci. Technol., Kumasi - BIOTELEMETRY INT.SYMP. 1972 (412-417)

When subjecting small animals to the effects

of electromagnetic fields, it is important to continuously monitor various parameters after exposure, without having to keep watch all the time and without being observed. In the absence of sophisticated equipment the authors constructed inexpensive devices for constantly measuring movement of restraining boxes, respiration rate, and time of closure of eyelids. To measure the movements of a monkey restraining box, use was made of the principle of a weighted pendulum insulated from the inside of a metal can and making and breaking a contact with a screw on the body of the can. The screw and a watch spring were 2 parts of a circuit and when they touched momentarily the circuit was completed; this would energize a solenoid, causing the movement of a lever to make a mark on slowly moving paper. The whole assembly was mounted over a restraining box. Respiration rate was recorded by a small device strapped around the chest, consisting of a plastic cylinder 3.5 cm long, closed at both ends. A small metal disk on the inside of 1 end, and a spring mounted metal needle projecting from the outside at the other end formed 2 parts of a circuit, and fine carbon granules filled the cylinder. In expiration, the spring was lax and the needle was deep in the cylinder; in inspiration the opposite occurred, thus increasing the resistance and causing a light lever to make marks on moving paper. To show when the eyelids closed, 2 short thin wires with expanded ends were fixed to the eyelids. When they approached (eyelid closure) the oscillations of a tuned circuit stopped and a relay was energized.

3649. Telemetrical measurements during sport performance on sportsmen with cardiac arrhythmias - Rous J. and Kocnar K. - Dept. Sports Med., J.E. Purkyne Univ., Brno - BIOTELEMETRY INT.SYMP. 1972 (256-263)

Telemetric investigation of the movements during the actual sporting effort enables one to judge the possibility of training or competing in cases of certain cardiac arrhythmias or other nonphysiological changes in the ECG picture. Ergometric examinations in the laboratory, of sportsmen with disturbances in the ECG picture, do not necessarily agree with the findings in actual sports activities. The sports activity can differ considerably from laboratory ergometric stress in intensity and character. The widest application of telemetry was found in the management of disturbances of atrioventricular and ventricular conduction, extrasystolic forms of arrhythmia, depression of the ST interval and changes in repolarization, in WPW syndrome etc. The most frequent causes of these changes were para and postinfectious changes in the myocardium, hypoxia of the myocardium and its metabolic disturbances or vegetative changes, whether of physiological origin (fitness) or pathological origin. The disappearance of pathological changes at ergometric examination in the laboratory does not imply that these changes will not appear again under maximal stress during sports activities; this conclusion is confirmed by examples. At the same time there are examples of contrary findings where for example ischemic changes in the ergometric

examination do not necessarily appear in the endurance mode of stress in the steady state in the field. Telemetry is a valuable method, augmenting the ECG findings from the laboratory and permitting one to judge the suitability of sports activities in persons with an abnormal ECG tracing.

3650. Electromyographic analysis of respiratory movements by autonomic memorization during a 25 m underwater dive - Delhez L., Gillard C., Deroanne R. et al. - Inst. Ernest Malvoz, Serv. Med. Travail, Liege - BIOTELEMETRY INT.SYMP. 1972 (139-150)

The analysis of respiratory movements generally used in the laboratory cannot be applied to many sporting activities. Among the procedures allowing freedom of movement and displacement, memorized electromyography of the diaphragm holds a place of first choice. Due to its relationships of proportionality with the mechanical variables of the ventilatory regimen, the electromyogram of the diaphragm was used successfully for analyzing respiratory movements during diverse sporting activities. The same type of memorization can be applied to particular conditions of underwater life up to a depth of 25 m by using a certain type of equipment while allowing certain programs of examination during diving and also allowing the recording of memorized information. This electromyographic analysis was used on 2 divers. It permitted a descriptive as well as a quantitative evaluation of electromyographic variables of the ventilatory regimen on the ground, in immersion and during diving.

3651. A quick and inexpensive method of monitoring on tape the heart rate during exposure of the human head to pulsed magnetic fields - Photiades D.P. and Ayivorh S.C. - Biophys. Res. Unit, Fac. Pharm., Univ. Sci. Techn., Kumasi - BIOTELEMETRY INT.SYMP. 1972 (168-172)

During experiments with pulsatile magnetic fields applied to the heads of human volunteers, which often produce lassitude and drowsiness, it is important to be able to monitor the heart beat continuously in the absence of specialized equipment. The authors resorted to recording on tape. A two or four track tape recorder and an audio amplifier were used, and a piezoelectric transducer was fashioned from a commercial record player stylus. After the needle was removed a thin metal disk 3.5 cm in diameter was permanently fixed to the exposed surface of the transducer. The whole assembly was encased in a well screened plastic cup with the metal disc 0.5 cm below the surface of the brim. The device was fixed at the apex beat by a band around the thorax holding it in position not too tightly. Doubly screened and grounded wire passed from the transducer to the amplifier feeding the recorder. A time signal was put on the tape simultaneously with the recording, and was obtained from the output by an oscillator which was regulated by a timer acting as an on-off switch. A clear recording of the heart beat was obtained in test and control positions. The device was easy to construct and inexpensive, worked well, and had a long life.

3652. Radiotelemetry of direct bloodpressure measurements in aorta, pulmonary artery and heart - Bachmann K. and Zerzawy R. - Med. Klin., Univ. Erlangen Nurnberg - BIOTELEMETRY INT.SYMP. 1972 (183-195)

1,281 studies of arterial, pulmonary and intracardiac pressures in unrestrained man were performed under daily life activities by means of radiotelemetry. The technique, both equipment and catheterization, proved to be a safe procedure for studying pressure changes due to physical activity and mental stress both in normal subjects and in patients with arterial hypertension and cardiovascular disease. In all these studies lasting for periods of up to 24 hr no complication occurred, and especially no local bleeding or cardiac arrhythmia. Radiotelemetry is a valuable method in the postoperative follow up after heart surgery and in the appraisal of medical treatment. In the normal subject radiotelemetry demonstrated much greater variation of arterial blood pressure under daily life activities than had been expected from the results of sphygmomanometry and ergometry hitherto available. In the early diagnosis and therapy of arterial and pulmonary hypertension one cannot rely on basal blood pressure only. Radiotelemetry of blood pressure and heart rate is a step forward to an objective basis for exercise therapy. In the prevention and rehabilitation of the cardiac patient radiotelemetry may show the borderline between therapeutically useful physical activity and training as a risk for the patient.

3653. Estimation of the intensity of physical exercises in children and adolescents based on telemetric studies of circulatory system - Kozinski E. - Inst. Res. Phys. Cult., Warsaw - BIOTELEMETRY INT.SYMP. 1972 (251-255)

Assessment of the intensity of physical exercises is usually based, in practice, on data mainly concerning the characteristics of exercises. This method is of comparatively low precision as it offers no indication of the stimulative value of various exercises performed by the human body. In order to make an adequate assessment of the value for the body of a given training programme, the changes that occur in its course must be kept under continuous observation, and the method of telemetry offers such a possibility. Investigations into the effects of training loads consisted firstly of measurements of oxygen consumption and the reaction of the heart during cycloergometric tests with varying loads, and secondly of telemetry of the circulatory system during natural motor activity of children. Analysis of the telemetric test results showed that the responses of the circulatory system during a majority of natural training loads are, in general, very differentiated and variable. The variations are found in electrocardiographic curves, primarily according to the nature and intensity of movement activity. From the data thus obtained it is possible to successfully compare the varying loads exerted by work and their influence on different subjects.

3654. 'Cardiocomandor' an electronic portable

schedule apparatus used by top athletes for conducting self interval training - Stanescu N. and Horoziu P. - Sport. Med. Cent., Bucharest - BIOTELEMETRY INT.SYMP. 1972 (173-175)

One of the most effective training methods used in order to increase the effort capacity is the so-called training with intervals which consists of alternation of periods of maximal effort with periods of relative recovering. Aimed at increasing the adaptation of the major functions to the sporting effort, this special kind of training leads to a considerable increase of the number of the active capillaries in muscle, a considerable increase of the muscular mass (striated and myocardial) and increased adaptability to the effort by the cardiovascular system. The elements of training with intervals are outlined.

3655. Identification of work straining factors in engine and car drivers by complex biotelemetric investigations - Benetato G., Ionescu V., Vrincianu R. and Adamache A. - Inst. Norm. Pathol. Physiol. 'C. Danielopolu', Bucharest - BIOTELEMETRY INT.SYMP. 1972 (216-225)

In 19 mechanics (operating diesel locomotives) and 12 professional car drivers a telemetric investigation during work was made of the electrocardiogram, electroencephalogram, pneumogram and carotid piezogram. The skin temperature was also recorded in mechanics. The factors which induce the most pronounced vegetative reactions in these types of work were thus identified. In mechanics signs of fatigue appeared in the EEG after 6 hr of work (theta waves and lowering of the frequency of the alpha basic rhythm) and at the end of the course there appeared a considerable relaxation. In car drivers, these signs appeared earlier, especially in the most monotonous sectors of the roads. The vegetative reactions were prompter and more pronounced than in mechanics, and by the end of the course, a deficit of orthostatic adaptation could be noted despite good myocardial dynamics.

3656. Electro rheocardiotelemetric device for complex monitoring of the dynamics and efficiency of cardiac contraction - Vrincianu R. - Inst. Norm. Pathol. Physiol. 'D. Danielopolu', Bucharest - BIOTELEMETRY INT.SYMP. 1972 (196-201)

The determination of a complex of cardiovascular functional parameters with a minimum of telemetric equipment, sensors and electrodes is at present one of the major requirements for telemetric investigations in cosmonauts, pilots and others. A telemetric system designed by the author allows the recording on a single tracing of the following data: the duration of the cardiac cycle, the stroke volume, time data regrading the atrial systole, and time data regarding the ventricular systolic and diastolic phases along with data on blood flow within the thorax. The details on this complex hybrid tracing derive from the recording and processing of two types of information obtained from the subject, viz. the electrocardiogram and the chest rheogram. The chest rheogram is made according to the method developed by Kubicek et al. for the assessment of the stroke volume. The equipment weighing

approx. 500 g, is borne by the subject and permits the study of cardiac performance in subjects operating under a wide range of environmental conditions; in the present study there were subjects exposed to high thermal radiation and carrying out considerable physical activity (forgers).

3657. An implantable blood pressure and flow transmitter - Rader R.D., Meehan J.P. and Henriksen J.K.C. - Dept. Physiol., Univ. South. California, Sch. Med., Los Angeles, Calif. 90007 - IEEE TRANS.BIOMED.ENGNG. 1973 BME 20/1 (37-43)

A miniature totally implantable FM/FM telemetry system has been developed to simultaneously measure blood pressure and blood flow, thus providing an appreciation of the hemodynamics of the circulation to the entire body or to a particular organ. Developed for work with animal subjects, the telemetry system's transmission time is controlled by an RF signal that permits an operating life of several months. Pressure is detected by a miniature intravascular transducer and flow is detected by an extravascular interferometric ultrasonic technique. Both pressure and flow are calibrated prior to implanting. The pressure calibration can be checked after the implanting by cannulation: flow calibration can be verified only at the end of the experiment by determining the voltage output from the implanted sensing system as a function of several measured flow rates. The utility of this device has been established by its use in investigating canine renal circulation during exercise, emotional encounters, administration of drugs, and application of accelerative forces.

3658. Models of remote health care systems - Willemain T.R. and Mark R.G. - MIT, Cambridge, Mass. - BIOMED.SCI.INSTRUMENT. 1971 Vol.8 (9-17)

The rationale for telemedicine systems is given and the use of queueing models in planning such systems is illustrated. One model is explored in some detail, providing estimates of the personnel requirements and capacities of telemedicine networks in terms of the skill levels of the paramedicals and the performance of the system technology. It is apparent that even rather simple analytical models can provide valuable qualitative and quantitative guidelines for system design.

3659. Circuit for searching for a signal from a three aerial system during inductive loop telemetry - Jacob R., Riddle H. and Watson B.W. - Dept. Med. Electron., St Bartholomew's Hosp., London - BIOMED.ENGINEERING 1973 8/7 (292-295)

This article describes the principles underlying an aerial selector designed to avoid loss of signal during inductive loop telemetry. Part of the circuit which acts like a sample and hold is discussed in detail. The performance is assessed.

3.8. Cameras

3660. Video long playing disc with optical scanning - LANGSPIEL BILDPLATTE MIT OPTISCHER

AETASTUNG - Roth W. - INTELEKTRON.RUNDSCH. 1972 26/10 (243-244)

The article describes a new video record system, in which the color TV information, stored on the record surface in the form of microscopic deepening (pits) is read off optically according to the reflection principle. An electro optical follow up system directs the scanning system exactly along the helical track and maintains a constant space between the lens system and the surface of the record. The 30 cm record with extended play (VLP) has a reproduction time of approx. 30 mins. It is possible to reproduce from it both stereo sounds as well as sounds in two different languages.

3661. A practical film mount for roll film - Barczak R.J. and Teates C.D. - Div. Nucl. Med., Dept. Radiol., Univ. Virginia Sch. Med., Charlottesville, Va. 22901 - RADIOLOGY 1972 105/3 (712-713)

Currently available commercial roll film mounting systems are assessed, and a new system employing sheet plastic is described and evaluated. Sheet plastic mounts are simple to use, inexpensive, and can be tailored to fit most film storage systems.

3662. Reduction of polymer growth in electron microscopes by use of a fluorocarbon oxide pump fluid - Ambrose B.K., Holland L. and Laurenson L. - Jmt. Metal Phys., Cavendish Lab., Univ. Cambridge - J.MICROSC. 1972 96/3 (389-391)

A commonly experienced contamination problem in electron microscopes is the growth of electron induced polymer films on the electrodes and specimens in instruments evacuated by oil pumps. Hydrocarbon fluids are generally used in the vacuum pumps and experiments have been made to reduce the contamination rate in a transmission instrument (AEI 802) by using fractional distillates of a new fluorocarbon oxide compound. The rotary pump was replaced by one charged with a fluorocarbon oxide lubricant and the fluid charge in the diffusion pump replaced by a fluorocarbon oxide evaporant. Both specimen and electrode contamination were greatly reduced by the use of the new fluid. Electron micrographs of a gold film are shown comparing contamination levels produced in organic and fluorocarbon oxide atmospheres after prolonged exposure to the electron beam.

3663. The silicon cold cathode - Kohn E.S. - Electro Optics Lab., RCA Electron. Components, David Sarnoff Res. Cent., RCA Corp., Princeton, N.J. 08540 - IEEE TRANS.ELECTRON DEVICES 1973 20/3 (321-329)

Cold cathode emission was obtained from forward biased silicon p n junctions whose p surfaces were activated to a state of negative electron affinity. In operation, electrons injected into the p layer diffuse to the surface where they are emitted into vacuum. An Si:SiO₂ structure was developed to overcome the problems associated with current crowding, and with this structure, efficiencies (ratio of emitted current to bias current) as high as 10 percent have been observed. Emitted current densities as large as 225 A/cm² and currents as large as 7 mA have

been drawn under pulsed conditions, while continuous current densities of 2 A/cm^2 and currents of tens of microamperes have been drawn for many hours. The electrical characteristics exhibited space charge limited and emission limited regimes as well as Schottky effect. The silicon cold cathode has advantages in applications such as vidicons, where some aspects of performance are presently limited by the thermionic cathode, and where power consumption and heat generation must be minimized.

3664. Sine cosine generator to hollow cone shaped object illumination in the electron microscope - SINUS KOSINUS GENERATOR FÜR DIE HOHLKEGELFORMIGE OBJEKTBESTRAHLUNG IM ELEKTRONENMIKROSKOP - Rust H.P. - Inst. Elektronenmikrosk., Fritz Haber Inst., Max Planck Gesellsch., Berlin Dahlem - INT.ELEKTRON.RUNDSCH. 1973 27/6 (121-122)

Principle and structure of a sine-cosine generator are described. For generating the output voltage phase shifted by 90° , operational amplifiers are used. The amplitude of the output voltages is kept on a constant nominal value by means of a control circuit. The generator controls a deflection system in the electron microscope.

4. COMPUTERS

4.3. Digital

3665. Automatic data processing and interactive data analysis - Gager D.R. - MARCONI REV. (Gr.Baddow, E.Ssex) 1972 35/185 (76-93)

The article describes a system whereby analogue signals recorded on magnetic tape can be digitized, and the resulting digital information fed at high speed on line into a computer where it is processed and stored on magnetic disc. The main part of the article is devoted to a description of a system which allows digital data derived from an analogue source to be displayed and analyzed at a computer graphics console. The displayed data have the appearance of the original analogue signal and are related to Cartesian coordinates where the x axis represents time and y axis the magnitude of the samples. Also shown on the video screen is a list of text which informs the system operator which set of data is currently being displayed and many other details relating to the mode in which the system is working.

3666. Program schemes, recursion schemes and formal languages - Garland S.J. and Luckham D.C. - Computer Sci. Dept., Univ. California, Los Angeles, Calif. - J.COMPUT.SYST.SCI. 1973 7/2 (119-160)

This paper presents general methods for studying the problems of translatability between classes of schemes and equivalence of schemes in a given class. There are four methods: applying the theory of formal languages, programming, measuring the complexity of a computation, and 'cutting and pasting'. These methods are used to answer several questions of translatability and equivalence for classes of program schemes,

program schemes augmented with counters, and recursively defined schemes. In particular, it is shown that the quasirational recursion schemes are translatable into strongly equivalent program schemes, monadic recursion schemes are translatable into strongly equivalent program schemes with two counters, and there is a monadic recursion scheme not strongly equivalent to any program scheme with one counter.

5. SPECIFIC MEASUREMENTS

5.1. Temperature

3667. Dynamic electric katathermometer for measuring the cooling effect of the environment (Russian) - Novak L. and Cesnek Y. - KOSM.BIOL.MED.(Moskva) 1973 7/2 (56-60)

An electric katathermometer was devised to provide fast, continuous and accurate measurements of the cooling effect of a small environment and to model the influence of the environment on the heat output of a homoiothermal system. The instrument consists of a sensing element (katathermometer), a regulatory unit maintaining the temperature of the sensor surface within a narrow range and a power supply unit which can be fed with AC or DC. The results demonstrate that the instrument is eminently suited to measuring the environmental cooling effect in a metabolic chamber ventilated at different rates, as well as to record continuously the effect of small and variable air movements on the heat output of a homoiothermal system.

3668. Stable crystal oscillator works over wide supply range - King T. - Oroco Communicat. Inc., Middletown, N.Y. - ELECTRONICS 1973 46/13 (112)

If single gate MOSFETs are wired as a modified Pierce oscillator and an isolating source follower, they form a crystal oscillator that has unusual supply voltage stability. This crystal controlled clock is not expensive to build, interfaces easily with transistor transistor logic circuits, and can operate directly from a 5 volt supply.

3669. IC timer automatically monitors battery voltage - McGowan Jr E.J. - Stoelting Co., Chicago, Ill. - ELECTRONICS 1973 46/13 (130)

The 555 type timer IC can conveniently function as the heart of an automatic battery charger. The circuit described is intended to maintain a full charge on a standby battery supply for an instrument that is always connected to the ac power line, whether in use or not.

5.5. Flow

3670. Electrokinetic properties of formed elements of human blood (erythrocytes, platelets and lymphocytes) - PROPRIETES ELECTROCINETIQUES DES ELEMENTS FIGURES DU SANG HUMAIN (GLOBULES ROUGES, PLAQUETTES, LYMPHOCYTES) - Larcen A. and

Stoltz J.F. - Groupe Rech. Hemorheol., CRTS, Nancy - *BIORHEOLOGY* 1973 10/2 (189-205)

Rats responded on a multiple fixed interval fixed interval schedule of reinforcement. Each complete cycle of the multiple schedule was separated from the next by a relatively long period of timeout from all schedule contingencies. A response at the end of the second component of each cycle was always reinforced with an invariant reinforcement magnitude, while reinforcement magnitude and reinforcement omission were systematically varied in the first component. Response rate in the first component was a monotonic function of reinforcement magnitude in that component. These changes in response rate in the first component did not affect response rate in the second component. When reinforcement was omitted on 50% of occasions in the first component, following reinforcement there was a reduction in response rate in the second component that was monotonically related to reinforcement magnitude. Following reinforcement omission there was an increase in response rate in the second component that was unrelated to reinforcement magnitude. When reinforcement was omitted on 100% of occasions in the first component, behavioral contrast was observed.

5.7. Volume

3671. The use of photoconductive cells in photoplethysmography - Fine S. and Weinman J. - Rogoff Lab. Biomed. Engin., Hebrew Univ. Hadassah Med. Sch., Jerusalem - *MED.BIOENGINEERING* 1973 11/4 (455-463)

Photoplethysmography (p.h.p.) is a noninvasive method of monitoring changes in peripheral blood volume. The method consists of illuminating the skin with a light flux, and detecting transmitted or backscattered light from the vascular bed by a photosensor. Experience and measurements show that the photoconductor (p.h.c.) is among the most sensitive of photosensors, and it is also small, cheap, and does not require high voltages. The p.h.c., however, has the unfavorable characteristics of temperature and light history dependence, which contribute to drift, and dynamic characteristics that change with different levels of ambient light and temperature level. This paper investigates these unfavorable electrical properties and shows how they can be dealt with so that the p.h.c. can be used with a high level of confidence, and photoplethysmograms obtained with minimum artefact.

5.10. Displacement

3672. Finite element displacement analysis of a lung - Matthews F.L. and West J.B. - Dept. Aeronaut., Imp. Coll. Sci. Technol., London - *J.BIOMECH.* 1972 5/6 (591-600)

There is considerable physiological evidence that the regional variation in pleural pressure and expansion of the lung is largely determined

by gravity. In this paper a method is given based on the technique of finite elements which determine theoretically the mechanical behavior of a lung shaped body loaded by its own weight. The results of this theoretical analysis have been compared with actual measurements of alveolar size and pleural pressures in animal lungs.

5.11. Electric phenomenons

3673. Oscilloscope conversion for biopotential measurements - Caldwell W.H. and Ebeling T.R. - Dept. Physiol. Biophys., West Virginia Univ. Med. Cent., Morgantown, W.Va. 26506 - *MED.BIOENGINEERING* 1973 11/4 (500-503)

A convertor to adapt general purpose or obsolete oscilloscopes for bipotential measurements has been designed. This device consists of complete vertical and horizontal circuits to drive directly cathode ray tube deflection plates. Vertical sensitivity ranges from 0.1 to 10 mV/cm and sweep speeds from 0.5 s/cm to 0.1 ms/cm. The linear sweep sawtooth waveform is generated by an analogue integrator, which is reset by a vertical or external input trigger signal. The circuits use low cost operational amplifiers for design simplicity.

5.11.1. Electric activity

3674. Cable artefact suppressor for electrophysiological recording - Klijn J.A.J. and Klopogge M.J.G.M. - Lab. Gen. Neurophysiol., Univ. Nijmegen - *ELECTROMYOGRAPHY CLIN.NEUROPHYSIOL.* 1973 13/1 (87-92)

The recording of electrophysiological phenomena in moving subjects, such as occurs in sports physiology, is hampered by cable artefacts and powerline interference. For reasons described in this paper, telemetry offers only a partial solution to this problem. A high quality overload protected, electrode amplifier combination designed for use with cutaneous electrodes is described. Cable artefacts and powerline interference are effectively suppressed by the low output impedance of this device. It can be used with any telemetric or wired recording system without affecting the specifications of the system such as input impedance, common mode rejection and floating input. Additional circuitry with a low thermal noise figure for EMG recording is presented. Methods for measuring the performance of the electrode amplifier are also described.

5.14. Radiation

3675. An analytic method for the least squares fitting of single line thick absorber Mossbauer spectra - Cleveland B.T. - Dept. Phys. Astronomy, State Univ. New York, Buffalo, N.Y. 14214 - *NUCLINSTRUM.METH.* 1973 107/2 (253-257)

A method is presented which expresses the integral for the Mossbauer thick absorber line

shape as a rapidly converging series. This method also permits calculation of the first derivatives of the absorption function so that the line shape integral can easily be used for the least squares fitting of experimental spectra. The use of this procedure for the measurement of Mossbauer parameters is discussed. In the interest of rapid computation, this procedure is entirely analytic; numerical integration and differentiation are avoided.

3676. Background current of the liquid ionization chamber - Nakayama T. and Kawano M. - Dept. Nucl. Engin., Fac. Engin., Nagoya Univ., Nagoya - NUCLINSTRUM.METH. 1973 108/1 (203-204)

Background currents of a liquid ionization chamber filled with n hexane have been measured. When the conductivity of n hexane is smaller than 5×10^{-17} mho/cm, the observed currents can be explained by Plumley's molecular dissociation theory.

5.14.1. Visible light

3677. The effect of emissivity error on the measured temperatures of gray bodies - Soboleva N.F. - SOV.J.OPT.TECHNOL. 1972 39/3 (182)

If a radiometer is calibrated with respect to a blackbody, then when it is used to measure the temperature of gray bodies, there is an error equal to the difference between the true and the radiation temperature of the object. This error depends on the temperature of the object and the surroundings and also on the emissivity of the object.

3678. The interference pattern at the output end of a fiber optic wedge - Kuchikyan L.M. - SOV.J.OPT.TECHNOL. 1972 39/2 (114-115)

Because of the use of fiber optic wedges in fiberoptic technology the authors investigated the passage of coherent light through them. Using approximately the same formula for the angles of the rays incident at one point of the output end of a fiber optic wedge as was used for a flat light guide plate a formula for the interference pattern is derived.

3679. Source reconstruction from the modulus of the correlation function: a practical approach to the phase problem of optical coherence theory - Kohler D. and Mandel L. - Dept. Phys. Astronomy, Univ. Rochester, Rochester, N.Y. 14627 - J.OPT.SOC.AMER. 1973 63/2 (126-134)

The problem of reconstructing an unknown light source from measurements of the modulus of the correlation function of the optical field has been investigated experimentally. The practical feasibility of 2 different techniques is compared. The first method involves the introduction of a reference point source to the side of the unknown source. The second method depends upon the use of filters with exponential response functions in front of the source. Both methods permit the source to be reconstructed from measurements of the modulus alone. The latter technique involves more sophisticated numerical procedures. Both methods have the advantage

that the recovered phase is largely independent of the instrumental transfer function.

3680. Absorption in conical optical fibers - Snyder A.W. and Pask C. - Inst. Advanced Studies, Dept. Appl. Mathemat., Australian Nat. Univ., Canberra - J.OPT.SOC.AMER. 1973 63/6 (761-762)

Many vertebrate and some invertebrate photoreceptors are known to be conical. A photoreceptor can be crudely thought of as a light absorbing optical fiber. Since the visual response is a function of the light absorbed, the absorption in conical optical fibers is studied.

5.14.2. Ultraviolet

3681. Spectral luminescence studies of proteins in the vacuum ultraviolet region at 77 K - Vinogradov I.P. and Dodonova N.Y. - OPT.SPECTROSC. 1971 30/5 (465-467)

The absorption spectra of tryptophan containing proteins were obtained over the 120-240 nm range. In the spectra, there are broad bands with maxima at 140 nm and 190 nm, which are characteristic of peptide bonds. The luminescence spectra of the proteins were obtained with excitation at a wavelength of 160 nm. In addition to the 340 nm fluorescence band of tryptophan, a 445 nm phosphorescence is observed in the spectra. The spectral dependence of the fluorescence and phosphorescence yields over the 110-300 nm range has been measured. On the basis of the results obtained, it is hypothesized that energy transfer from the peptide bonds to tryptophan is possible only in the region of the weak 230 nm n transitions of the peptide bonds but not in the region of their most intense absorption at 140 nm and 190 nm.

5.14.3. Infrared

3682. Chalcogenide glass bolometers - Bishop S.G. and Moore W.J. - Nav. Res. Lab., Washington, D.C. 20390 - APPL.OPT. 1973 12/1 (80-83)

The chalcogenide glass $\text{Ti}_2\text{SeAs}_2\text{Te}_3$ was evaluated as a thermistor bolometer material for room temperature operation. Thin film bolometers were fabricated on mica, glass, and sapphire substrates by both hot pressing and rf sputtering techniques. Best results were achieved with 10μ thick $\text{Ti}_2\text{SeAs}_2\text{Te}_3$ elements on thin mica substrates. Using a 500 K blackbody at a 19 Hz chopping frequency, a $2.5 \times 10^{-3} \text{ cm}^2$ device yielded an NEP of $2.3 \times 10^{-9} \text{ W Hz}^{-1/2}$ and a 10^{-4} cm^2 device achieved an NEP of $7.7 \times 10^{-10} \text{ W Hz}^{-1/2}$. The ac performance of these devices is limited by their inherently long response times (approx. 1 sec).

5.14.4. Radiowaves

3683. The effect of microwaves on the morphology and function of the thyroid gland -

BADANIA CZYNNOSCIOWE I MORFOLOGICZNE GRUCZOLU
TARCZOWEGO U ZWIERZAT NAPROMIENIANYCH MIKROFALAMI
- Baranski S., Ostrowski K. and Stodolnik
Baranska W. - Inst. Biostrukt. AM, Warszawa -
ACTA PHYSIOL.POL. 1972 23/6 (997-1009)

An increase of the functional coefficients was established in all animals undergoing microwave irradiation during 4 months (5 mW/cm² power density). Differences in ¹³¹I incorporation into the thyroid gland and total radioactivity are due to an increased assimilation of Iodine. On the other side an increase of PBI and conversion value seems to be the sign of an increased secretory function. Suggestions of an increased incorporation of ¹³¹I were confirmed by autoradiographic investigations. In histological sections the cylindrical epithelium covering thyroid follicles was seen. It should be pointed out that no mitotic figures were observed. It seems to be due to the increased gland activity, but not to hyperplasia. In electron microscopy the increased number of cytosomes, enlargement of Golgi apparatus and endoplasmic reticulum were seen.

5.14.6. α , β and γ radiation

3684. A method to determine the γ ray attenuation coefficients - Gopal S. and Sanjeevaiah B. - Dept. Phys., Univ. Mysore, Manasagangotri - NUCLINSTRUM.METH. 1973 107/2 (221-225)

The percentage resolution of the scintillation spectrometer is studied by interposing carbon, aluminium, copper, tin and lead absorbers of different thicknesses between the source and the detector. For these thicknesses γ ray attenuation coefficients μ are measured using the counting sequence of Conner et al. The results show that the percentage resolutions and attenuation coefficients remain fairly constant for values of $\mu t < 1$. This implies that the number of multiple scattered photons reaching the detector becomes negligible and the narrow beam collimated geometry condition is preserved, when the thickness of the sample satisfies the criterion. These investigations indicate that the counting sequence adopted by Conner et al., together with the criterion $\mu t < 1$, would greatly improve the measured γ ray attenuation coefficients.

3685. An improved version of the methane cold neutron source - Dimic V. - Inst. 'Josef Stefan', Univ. Ljubljana - NUCLINSTRUM.METH. 1973 107/2 (405-406)

A new version of a cold neutron source facility, using methane as a moderator, has been installed recently in one of the tangential beam tubes of the reactor TRIGA Mark II at the Institute Jozef Stefan, Ljubljana. The construction and performance of the facility are described.

5.14.7. Neutrons

3686. On the minimal threshold of pulse shape discriminators - Doolin V.A. and Litjaev V.M. -

Inst. Phys. Energetics, Obninsk -
NUCLINSTRUM.METH. 1973 108/1 (157-160)

A theoretical analysis is given of the characteristics for pulse shape discriminators used in fast neutron spectrometry (scintillation counters based on organic scintillators). Principally possible minimum thresholds for several discriminator types using the zero cross method and the method of comparison of a full charge with its part are calculated. It is shown that the energies at which the given efficiencies of πp (protons) and πe (electron registration) are reached may be different for various discriminator types. The results of calculations are compared with the results of the experiment and the experimental data of other authors.

5.14.9. Sound

3687. Interpretation of spectrophone measurements of the lifetimes of vibrational states of the CO₂ molecule - Domin P.I. and Kuzmin V.L. - OPT.SPECTROSC. 1971 31/2 (112-113)

A formula is obtained for the relaxation time of the energy of the 00¹ asymmetric vibrational state of the CO₂ molecule as measured in the spectrophone. In the solution of the problem, all possible transitions between levels lying below the 00¹ level were taken into account, the contribution from each transition to the measured value being estimated.

3688. Noise control design using scale model tests - Katra T.S. and King D.B. - Carrier Corp., Syracuse, N.Y. - SOUND VIB. 1973 7/1 (14-21)

A noise control project at a large turbomachinery test facility is described where the study of scale models was successfully used to evaluate the design of large, expensive noise control devices. Performance data on a number of piping noise control material combinations are also included which should be useful in a broad range of problems involving radiation from pipes or similar structures. An outdoor sound level monitor useful in detecting community noise problems is also described.

3689. Focusing properties of solid ultrasonic cylindrical lenses - Folds D.L. - Nav. Coastal Syst. Lab., Panama City, Fla. 32401 - JACOUST.SOCAMER. 1973 53/3 (826-834)

The sound velocity, thermal coefficient of sound velocity, and attenuation coefficients of 20 common plastics were measured and used as a basis for the design of several lenses. Materials selected were polyethylene, nylon, polystyrene, polyphenylene oxide, and a low sound velocity silicone rubber compound. Using common geometrical optical techniques lenses were designed to minimize off axis aberrations for focal length to aperture ratios ranging from 1 to 3 and aperture to wavelength ratios up to 150. Using methods analogous to chromatic aberration correction in optics, lenses were designed for constant focal length over a temperature range of 0° to 30°C. Two and four element lens systems with apertures up to 30 cm were fabricated from the selected materials. Measurements were made

in the frequency range 600 kHz to 1.2 MHz and good agreement with theoretical predictions of focal length and directional response was observed. The effects of shear waves were not evident. The theoretical model used to evaluate lens performance was based on the numerical evaluation of the Fresnel Kirchhoff diffraction integral. This work shows that it is possible, using established optical design methods and commonly available solid materials, to fabricate athermal acoustic lenses with good performance characteristics at aperture to wavelength ratios up to 150.

3690. Noise level specifications for machinery and equipment - Ebbing C. and Ostergard P.B. - Carrier Corp., Syracuse, N.Y. - SOUND VIB. 1973 7/1 (22-26)

A recommended noise level specification for the purchase of industrial machinery and equipment is presented. It is mainly intended to control in plant noise in compliance with OSHA regulations although it can also be applied to purchased components for original equipment product lines. The specification is useful to the buyer in setting meaningful noise limits and it is useful to the seller who has to meet his customer's requirements.

3691. Finite amplitude acoustics of aerosols - Davidson G.A. and Scott D.S. - Dept. Mech. Engin., Univ. Toronto - JACOUST.SOCAMER. 1973 53/6 (1717-1729)

The evolution of finite amplitude plane waves as they propagate through monodisperse aerosols of spherical particulate matter was investigated theoretically. Attenuation, dispersion, and the growth of higher harmonics were considered in detail. It was shown that, except for the case of very low dust loading, the particulate matter dominates the gas self viscosity in determining acoustic processes. Using a criterion based upon harmonic ratios, regimes of allowed and precluded shock formation were tentatively identified and in the case of the former, shock formation distances given. The shock formation distance in an aerosol was shown to always be greater than that of the corresponding clean gas case. Finally, the theory was extended to polydisperse systems. The results reduced to those of existing theories for the limiting cases of infinitesimal amplitude acoustics of dusty gases and finite amplitude acoustics of clean gases.

6. SPECIALIZED INSTRUMENTATION

6.1. Metabolism

3692. The use of mathematical modelling for the study of regulation of the cholesterol metabolism (Russian) - Panin L.E., Avseenko N.V. and Ravodin O.M. - Med. Inst., Tomsk - KARDIOLOGIYA 1972 12/11 (122-127)

Regulation of cholesterol level in the biologic system is analyzed with the aid of a mathematical model of carbohydrate lipid metabolism. The mathematical model describes

the behavior of 10 basic variables of carbohydrate lipid metabolism. The model's function is aimed at the maintenance of sugar stability in the system. Behaviour of all the variables of the system corresponds to real changes observed in the body subjected to extreme factors (hunger, physical stress etc.). It is shown the rate of formation of cholesterol is affected by the concentration of acetyl CoA, NADP.H₂ and ATP. With perturbation affecting the system, NADP.H₂ in the system increases. This is due to the fact that along with synthesis the breakdown of cholesterol is inhibited. Degree of increase in the cholesterol titer is determined likewise by the level of acetyl CoA and the ketone bodies.

3693. A new test statistic for the Kodlin Standish drug surveillance model - Ury H.K. - Dept. Med. Meth. Res., Permanente Med. Group, 3779 Piedmont Ave., Oakland, Calif. 94611 - COMPUTERS BIOMED.RES. 1972 5/5 (561-575)

For the purpose of drug surveillance, i.e., for continuous evaluation of possible associations between drugs and pathological manifestations (events), Kodlin and Standish proposed a response time model involving the time of first drug administration and the event appearance time; by means of explicit parameter estimates, computed from samples of such times which are extracted from routine medical records, they then derived a test statistic Δ . Using the same mathematical model, the authors propose a related test statistic χ which appears to be as robust as Δ , more stable for small sample sizes, and somewhat more powerful, on the average, over linear models. The performance of both test statistics is evaluated by Monte Carlo methods and χ is calculated for the numerical example (Penicillin and Rash) given by Kodlin and Standish. Like Δ , χ might be generally useful in testing for independence of two phenomena whose occurrence times are observable. Another test statistic is also investigated.

3694. On the photogrammetric valuation of body surfaces - Bugyi B. - Ganz Mavag Polyclin., Budapest - JENA REV. 1972 3 (149-154)

A method is described and critically analyzed, which is intended for the determination and valuation of the body surface with the aid of photograms, which are produced under standardized conditions. The applicability of the method is briefly explained.

3695. Combination of a continuous culture with a flow microcalorimeter - Brettel R., Corti L., Lamprecht I. and Schaarschmidt B. - Zentr. Inst. Biophys. Biochem., Freie Univ., Berlin - STUDIA BIOPHYS. (Berl.) 1972 34/1 (71-76)

A continuously growing culture of a microorganism is combined with a flow microcalorimeter, which records the heat production of the culture during the growing up to the wanted steady state, in this state, and while altering particular parameters of the culturing conditions.

6.2. Thermoregulation

3696. A radiant heating device for control of body temperature of infants during radiography - Barbier J.Y., Shackelford G.D. and McAlister W.H. - Mallinckrodt Inst. Radiol., Washington Univ. Sch. Med., St. Louis, Mo. 63110 - RADIOLOGY 1973 108/1 (215-216)

A radiant heating device for infant warming during radiography is described. A servo controlled circuit permits constant feedback control of the heating cycle within a narrow temperature range.

6.4. Liver and bile ducts

3697. A system for recording three dimensional condylar movements - Pameijer C.H. and Stallard R.E. - Boston Univ. Sch. Grad. Dent., Boston, Mass. - J.DENT.RES. 1973 52/Spec.Nr (165)

There is a considerable difference in opinion as to the extent and methods for adjusting occlusion. Clinical judgement and factors such as tooth mobility, abnormal wear pattern and x ray findings of a widened periodontal ligament space contribute to making the diagnosis. Besides the controversy as to the correct techniques the question of what is the proper position of the mandible to the maxilla and how should it be obtained remains unanswered. The reproducibility and degree of distalization of the mandible in three dimensions, utilizing various clinically accepted techniques in relation to various postural positions were evaluated in this study. A recording device was constructed which consisted of a modification of the clutches of an occlusolator accommodating a light weight face bow. The upper member served as a reference utilizing semi conductor strain gauges cemented to spring metal strips. The strain gauges were mounted in a sagittal lateral, sagittal medial, horizontal superior and transverse posterior plane. Each strain gauge was connected to a Wheatstone bridge and subsequently to a paper recorder. Eight channels recorded condylar movements and an additional channel recorded the amount of force applied when the mandible was guided. The lower member was constructed such that movements of the mandible activated the strain gauges and condylar movements were recorded and calibrated in 1/100 mm. The results indicated that different centric relations are obtained with various accepted techniques. Postural position and compressibility of the joints must be considered important factors when establishing centric relation.

6.5. Blood

3698. Scanning electron microscopy of surfaces inducing shear hemolysis - Lampert R.H. and Williams M.C. - Dept. Chem. Engin., Univ. California, Berkeley, Calif. 94720 - J.BIOMED.MAT.RES. 1973 7/2 (253-262)

The superficial physical construction of protein layers seems to have little bearing on

shear induced hemolysis. Differences in the hemolytic behavior of various materials can probably be attributed to subtle details of protein layer composition, which cannot be predicted at present. Such details could include the distribution of various proteins within the layer, with respect to both uniform chemical gradients and regions of underlying inhomogeneities of certain species.

3699. A simple device to facilitate rapid blood sampling in small animals - Scharschmidt B. and Berk P.D. - Metab. Branch, Nat. Cancer Inst., NIH, Bethesda, Md. 20014 - PROC.SOC.EXP.BIOL.MED. (N.Y.) 1973 143/2 (364-366)

A device is described which facilitates rapid, timed sampling of arterial blood in the rat. This device is especially useful for definition of plasma disappearance curves of various injected compounds.

6.6. Lymphatic system

3700. A cannula for maintaining long term thoracic duct fistulas - Dedo D.D. - Dept. Surg., Northwest Univ. Sch. Med., Chicago, Ill. - SURGERY 1973 73/5 (791-794)

A double lumen cannula for maintaining prolonged thoracic duct fistula was devised. By using a continuous flow of heparinized saline into the thoracic duct, lymph drainage of up to 22 days (average 16 days) was obtained.

6.7. Circulation

3701. Blood pressure radiotelemetry in man by the microcatheter technique - BLUTDRUCKTELEMETRIE BEIM MENSCHEN MIT DER MIKROKATHETERMETHODE - Kronig B., Parade D., Schwarz W. et al. - I. Med. Klin., Johannes Gutenberg Univ., Mainz - KLIN.WSCHR. 1972 50/19 (898-906)

A simple, low risk method causing little stress to the patient is described for direct continuous pressure measurement (percutaneous catheterization of the brachial artery) and radiotelemetric transmission. This permits rapid blood pressure changes to be recorded under various conditions, as well as establishing an exact everyday like 24 hr blood pressure profile. The method seems appropriate for studies of blood pressure rhythm as well as for clinical pharmacological examinations. Compared with the common indirect measurement of blood pressure in the supine and standing positions, a 'new dimension' in the evaluation of blood pressure reactions may be open.

3702. Mechanical cardiopulmonary support during arteriography and surgical correction of coronary insufficiency producing myocardial infarction with cardiogenic shock - Carlson R.G., Rees J.R., Baltaxe H. et al. - Dept. Surg., New York Hosp., Cornell Med. Cent., New York, N.Y. 10021 - J.ASS.ADVANC.MED.INSTRUMENT. 1972 6/3 (244-248)

Emergency coronary arteriography and left

ventriculography during mechanical cardiopulmonary support for patients in shock after myocardial infarction permit precise coronary artery revascularization and repair of structural defects. Four patients are presented who had support with the intraaortic balloon pump and/or the Lande Edwards membrane oxygenator during angiography and surgery for aortocoronary arteriovenous bypass grafts or myocardial infarction resection.

3703. Effect of the magnesium ion and temperature on the functioning of the isolated ventricle of *Crassostrea angulata* (Mollusc, Lamellibranchia) - ACTION DE L'ION MAGNESIUM ET DE LA TEMPERATURE SUR LE FONCTIONNEMENT DU VENTRICULE ISOLE DE *CRASSOSTREA ANGULATA*, MOLLUSQUE, LAMELLIBRANCHE - Perrine D., Binet P. and Georges P. - Lab. Zool. Parasitol., UER, Sci. pharmaceut., Caen - C.R.SOC.BIOL. (Paris) 1972 166/4-5 (593-596)

In contrast to the generally accepted views on numerous contractile organs it does not appear to be possible to compare the effects of calcium and magnesium for *Crassostrea angulata*. On the contrary, they appear to be opposed and a comparison appears to be possible only for potassium and magnesium.

3704. Formation of intravascular bullae. Ultrasonic detection by Doppler effect - FORMATION DE BULLES INTRAVASCULAIRES. DETECTION ULTRASONORE PAR EFFET DOPPLER - Cathignol D., Roche M. and Grivel M.L. - Lab. Opt. Corpusculaire Electroacoust., Inst. Nat. Sci. Appl., Villeurbanne - NOUV.PRESSE MED. 1973 2/2 (117-118)

It has long been thought that the formation of bubbles in the blood and tissues is responsible for serious disorders in living beings submitted to rapid decompression. Recently, numerous attempts have been made to detect the presence of bubbles and relate them on the technical level to decompression disorders. Spencer and Campbell confirmed this hypothesis; they showed that in decompression accidents, bubbles are formed in the vena cava. In the majority of the existing detectors the presence of a bubble is indicated either by the appearance of an ultrasound wave reflected by it (echo) or by attenuation of the transmitted ultrasound wave, or finally by the variation in frequency of the ultrasound wave reflected by the moving bubbles (Doppler effect).

3705. Quantitative analysis of fetal electrophysiologic data - Peltzman P., Goldstein P.J. and Battagin R. - Dept. Obst. Gynecol., Univ. California, San Francisco, Calif. - AMERJ.OBSTET.GYNEC. 1973 115/8 (1117-1124)

The continuous fetal electroencephalogram, heart rate, and intrauterine pressure were analyzed with a digital computer. The results obtained with the described methods indicate their potential application to the investigation of the fetal effects of extrauterine influence.

3706. Direct current defibrillator testing - Sloman G., Stuckey J., Kowadlo E. et al. - Dept. Cardiol., Roy. Hosp., Melbourne - MED.JAUST. 1973 1/12 (597-598)

The defibrillators in current use in Australia have a considerable variation in the amount of

delivered energy at similar stated energy levels. A similar survey of defibrillators in current use throughout several hospitals in the United States also revealed a high frequency of malfunctioning units. It is recommended that all defibrillators be tested at regular intervals.

3707. Intravascular radiopaque catheters in the dog: tissue reaction and possible lead loss - Winders R.L., Rostorfer H.H. and Black Schaffer B.C. - Dept. Anat. Physiol., Indiana Univ., Bloomington, Ind. 47401 - J.BIOMED.MATRES. 1973 7/2 (167-178)

Male mongrel dogs were divided into two groups and placed in urine collection cages for 24 hr urine samples. One group was implanted with sterile radiopaque polyethylene catheter and stainless steel guide wire fragments in the venous vasculature via an incision in the left femoral vein and the remaining group in the arterial vasculature via the left femoral artery. The catheter fragments, made radiopaque by an admixture of 25% lead oxide and 75% polyethylene, were located by roentgenograms and along with the guide wire fragments removed at necropsy 18 to 46 wk following implantation. Gross and microscopic tissue lesions consisted of fibrous tissue tubes and slings which completely enclosed and anchored the fragments and intimal hyperplasia with fibrous tissue organization of thrombi, respectively. Tissue staining techniques for lead, catheter fragment weights, blood lead levels, and urine lead content all revealed no evidence of lead loss from the catheter fragments implants.

3708. Roentgenographic study of relative heart motion during vibration in water immersed cats - Sass D.J. - Nav. Med. Res. Inst., Bethesda, Md. 20014 - J.BIOMECH. 1973 6/3 (219-225)

Anesthetized cats were subjected to constant amplitude (10 mm peak to peak) whole body vibration in either the prone ($\pm G_x$), left lateral decubitus ($\pm G_y$), or upright positions ($\pm G_z$) to determine whether or not the heart could be forced to undergo large amplitude translational motion relative to other intrathoracic structures and show resonance phenomena as described by others. The animals were totally immersed in water within a rigid transparent assembly to minimize vibratory motion of the chest wall and abdominal viscera which could transmit translational forces to the heart. With the animal thus tightly coupled to the vibration table, motion of the heart would be due only to its inertia and to the mechanical properties of its intrathoracic supports. Radiopaque 2 mm beads were implanted in the cardiac apex, domes of the diaphragm, and in the chest wall, and the amplitude of motion of each bead was measured in serial roentgenograms as the frequency and peak acceleration of the vibration were increased stepwise from 3 Hz (± 0.2 g) to 20 Hz (± 8 g). In contrast to the results of roentgenographic studies of heart motion due to vibration reported by others in animals less well restrained, in the present study, motion of the heart due to whole body vibration was minimal, less than 3 mm at the cardiac apex, and resonance was not detected.

3709. An instrument for the analysis of direct arterial pressure recorded on magnetic tape - Reid H.J. and Williams D. - Electron. Appl. Phys. Div., Atom. Energy Res. Establishment, Harwell - BIOMED.ENGINEERING 1973 8/5 (202-206)

An instrument is described which analyses automatically data from magnetic tape readings of direct arterial pressure in unrestricted man. A 24 hr recording may be processed in less than 1 hr and results presented in the form of a permanent visual record of the study.

3710. Analysis of photoplethysmographic pulse curves with electronic derivation - Thulesius O., Borgnis F. and Dvorak T. - Dept. Clin. Physiol., Cent. Hosp., Vaxjo - SCAND.J.CLIN.LAB.INVEST. 1973 31/SUP.128 (159-162)

Photo electric finger plethysmograms were analyzed by a new principle involving electronic transformation of first and second derivative. The results were compared to volumetric finger pulse curves in 31 subjects including cases of cold hypersensitivity.

3711. A new method of measuring arterial dilation and its application - Leblanc A. - Lab. Rech. Gen Med., Univ. Quebec, Trois Rivières - MED.BIOENGINEERING 1973 11/3 (326-335)

An instrument was designed and constructed for the in vivo measurement of instantaneous (phasic) diameter changes of arteries. The continuous record of this blood vessel dimension, when recorded simultaneously with blood pressure, may be used to estimate the viscoelastic properties of the arterial wall.

3712. Compatibility problems in artificial organs - Sobin S.S. - Los Angeles County Heart Ass., Univ. South. California Cardiovasc. Res. Lab., Med. Cent., Los Angeles, Calif. 90033 - BIOMAT.MED.DEV.ARTIF.ORGANS 1973 1/1 (57-77)

In considering artificial organs and host compatibility, an initial assumption is that an artificial organ must reproduce or mimic normal organ physiology. This analysis is facilitated by classifying tissues and organs into 2 groups relative to their microvascular beds: regulatory or homeostatic, and nutritional. Regulatory beds modify blood as part of their homeostatic function, i.e., kidney and lungs; nutritional beds meet the metabolic needs of tissues, i.e., heart and brain, without which tissue death would occur. Additional examples are given. Complete analysis of regulatory organ function must include all functions, not only the major one. For example, in addition to gas exchange the lung has an important filtration function, and vasoactive materials and possibly fibrinolytic enzymes are stored, released, and possibly synthesized in the lung. Nonregulatory organs also pose problems in physiology mimicry, which are detailed. There are other areas of compatibility problems due to the uniqueness of living material beyond that of precise organ physiology. They are: surface or gas effects on solid and fluid constituents of blood; immunologic problems; hydrodynamic effects; biochemical effects; potential carcinogens; potential teratogens; a group of physical incompatibilities which include heat, electricity, and mechanical support

problems.

3713. Development and evaluation of a new pulsatile ventricle pump for use in cardiopulmonary bypass - Bentley D.J. and Bivona Jr J.C. - Bentley Lab., Inc., Irvine, Calif. 92705 - BIOMAT.MED.DEV.ARTIF.ORGANS 1973 1/1 (141-153)

A pulsatile, portable, versatile pump for cardiopulmonary bypass has been developed, using an externally powered air piston driven ventricle chamber. The pump closely approximates the action of the left ventricle with variable pulse rates (20-120 beats/min) and automatically variable stroke volume (10-100 ml/stroke). Activation from an external source such as the R' wave of the electrocardiogram is provided. The pump may thus be used in either synchronous or counterpulsation techniques during cardiac failure. The system will perfuse at a rate of 1-6 liters/min providing either total or partial body perfusion. The actuator is gas powered. The control system utilizes fluidic electronic interfaces, either battery or alternating current powered. Thus the system may be completely portable. The ventricle is made from a negatively charged inherently antithrombogenic polyurethane. The system has proven very gentle to blood cells and other blood components, including proteins, in extended in vitro evaluation. It is now undergoing extended in vivo and clinical evaluation and use. The results of these evaluations will be presented. This new pump provides an effective, reliable, minimally hemolytic, versatile pulsatile chamber pump for external use.

6.8. Respiration

3714. Improvement of an infant pneumotachograph - Scott J.C. and Flanagan G.J. - Dept. Anaesth., Roy. Victoria Infirmary, Newcastle upon Tyne - ANAESTHESIA 1973 28/1 (59-65)

An integrating pneumotachograph designed for use in neonates and small children was described by Lunn, Molyneux & Pask, and later evaluated by Owen Thomas. A Greer defocusing manometer was used to measure the differential pressure across an airflow resistance, and this response was electrically integrated with respect to time to read minute volume; the electrical circuit was arranged to respond to flow in one direction only. This instrument was found to have some disadvantages when used clinically. The principal problems were zero drift which resulted in progressive errors in calibration of the instrument and condensation in the flowhead. The effects of this condensation were demonstrated experimentally using 'dummy lung' and ventilator system. When dry gas at ambient temperature was passed through the pneumotachograph whilst the head was also at ambient temperature, the readings remained stable. If the gas was saturated with water vapour at 37° C and passed through the head at ambient temperature, considerable inaccuracies were seen after 5 min. Stability was restored when the pneumotachograph head was

maintained at 37° C. Accordingly the electrical circuit and flowhead have been redesigned to eliminate these disadvantages, and the instrument is described in its modified form.

3715. Course of respiratory mechanics during prolonged artificial ventilation - EVOLUTION DE LA MECANIQUE RESPIRATOIRE AU COURS DE LA VENTILATION ARTIFICIELLE PROLONGEE - Dumazeaud M., Dutertre Y. and Cardinaud J.P. - Cent. Reanim. Resp., Hop. Enf., Bordeaux - SEM.HOP.PARIS 1972 48/45 (2971-2976)

A study is presented of the mechanics of respiration in 62 patients under artificial respiration for a period of 2 to 35 days. 24 of these patients were ventilated using a constant flow apparatus (SF4), 38 by means of an accelerated flow apparatus (Engstrom). The results were as follows: Static and dynamic compliances were much lower under artificial respiration than during spontaneous respiration. Conversely, the dynamic resistances and the respiratory mechanical work were much higher. The values were little changed between the first day and the end of the treatment. There is a significant difference between the values of respiratory mechanics according to the respirator used. There is a discussion about the action of artificial respiration on the lung and the influence of the type of respirator.

3716. New heating system for the respiratory volumeter 44901. Technological improvements of respiratory volumeters - NEUE HEIZUNG FUR ATEMVOLUMETER 44901. TECHNISCHE VERBESSERTUNGEN AN ATEMVOLUMETERN - Stiegler F., Fuest W. and Hopp M. - VEB Kombinat Med., Labortechn., Leipzig - MED. TECHN. (Berlin) 1972 12/4 A (98-99)

The respiratory volumeters described were technically improved by incorporating a titanium blade in the mechanism and by the possibility of electric heating. The heater is delivered as an accessory, and may also be fitted to all existing respiratory volumeters.

3717. A theoretical study on flow patterns of ventilators - Jansson L. and Jonson B. - Dept. Clin. Physiol. Las., Univ. Lund - SCAND.J.RESPIR.DIS. 1972 53/4 (237-246)

The effect of different inspiratory flow patterns produced by ventilators on the distribution of ventilation was theoretically investigated. The experiments were performed as simulations on a computer. When resistance of lung compartments differed, even ventilation was favoured by: low flow rate during a prolonged inspiration, decelerative inspiratory flow, and retention of the air during a post inspiratory pause. When compliance differed between compartments the same factors contributed to slightly more uneven ventilation, without practical importance. Compared to decelerative flow, accelerative flow caused higher peak pressures in the upper airways and in the non obstructive alveoli, but lower mean pressures. The use of different flow patterns in different categories of patients is briefly discussed.

3718. Disconnect alarm modification of Bennett MA 1 respirator - Gardiner W.R. - Dept. Resp.

Care, Overlake Mem. Hosp., Bellevue, Wash. - RESPCARE 1973 18/2 (167)

The need for a reliable patient disconnect alarm system on ventilators is unquestioned. The current system on the Bennett MA-1 Respirator, which uses a metering rod on the monitoring spirometer, is an improvement over the original unit, but it still lacks sufficient reliability. Several reasons are given for this: Failure of the attending staff to reactivate the spirometer alarm system after patient disconnection; improper positioning of the metering rod; spirometer malfunction; battery failure. These problems are eliminated by using the Monaghan 701 On Guard Alarm System.

3719. The Cape Minor ventilator: a functional analysis and clinical appraisal - Tweedie D. and Hibbert G.R. - South Warwickshire Hosp. Group, Warwick Hosp., Warwick - BRIT.J.ANAESTH. 1973 45/5 (526-531)

Functional analysis indicates that the Cape Minor Ventilator is predominantly a flow generator in the inspiratory phase, electrically powered, time cycled and volume pre set. Study of methods of oxygen enrichment shows that any desired $FI(O_2)$ from air to 90% oxygen can be achieved. Clinical evaluation suggests it to be a useful, small, powerful and inexpensive ventilator. The major defect is poor valve design.

6.9. Reproductive system

3720. An ultrasonic transducer for recording oviductal motility - Hodgson B.J., Ware R.W., Crosby R.J. and Pauerstein C.J. - Dept. Obstet. Gynecol., Univ. Texas Med. Sch., San Antonio, Tex. 78284 - J.APPL.PHYSIOL 1973 34/6 (873-878)

A transducer has been developed which uses changes in the transmission of ultrasound at 2.8 MHz for monitoring motility of the rabbit oviduct. In vitro experiments demonstrate excellent correlation of changes in phase angle of continuous wave ultrasound passing through the tissue with frequency of contractions as measured by a force transducer. Increased speed of transmission due to a greater proportion of higher velocity medium (muscle) between the piezoelectric elements and increased velocity through muscle due to contraction per se probably account for the observed changes. Oviductal motility in the unrestrained rabbit was monitored using telemetry of attenuation of pulsed ultrasound. Modification of motility with adrenergic drugs indicated that changes in attenuation reflect contractile events. The transducer offers some advantages over other methods of monitoring contractility of hollow viscera, in that it is resistant to motion artifact, does not occlude the lumen, and is suitable for telemetry.

6.10. Urinary tract

3721. Thin film blood flow in rectangular channels with application to artificial kidney

haemodynamics - Gaylor J.D.S. - Bio Engin. Unit, Univ. Strathclyde, Glasgow - J.BIOMECH. 1973 6/3 (241-251)

The flow behavior of human red cells and plasma through a semi infinite parallel plate channel (similar to blood flow paths in multi layer artificial kidneys) was analysed from residence time curves of radioactive labelled blood exiting from the channel. For a plate separation gap of 239 μm and wall shear rates 117-226 sec^{-1} , red cells possessed a lower residence time hence higher mean velocity than plasma within the duct. This velocity difference was interpreted in terms of plasma layer formation adjacent to the duct walls, using an idealised plasma layer thickness of 1.07, 2.32 and 2.5 μm for wall shear rates of 117, 197 and 226 sec^{-1} respectively. Future application of the experimental method to analysis of artificial kidney fluid dynamic design from consideration of minimal red cell damage is discussed.

6.11. Nervous system

3722. Study of an early potential led off from the scalp for objective audiometry - UNTERSUCHUNG EINES FRUHEN, VON DER KOPFHAUT ABLEITBAREN POTENTIALS FÜR DIE OBJEKTIVE AUDIOMETRIE - Gerull G., Giesen M., Mrowinski D. and Rudolph N. - HNO Klin., Klin. Westend, Freie Univ., Berlin - H.N.O. (Berl.) 1972 20/11 (339-343)

An early auditory evoked potential of 6 to 10 msec latency recorded from the human scalp is presented. Click stimuli of 0.1 msec duration were given by ear phones at random intervals of about 100 msec. The potentials were picked up by disk electrodes, amplified with a bandwidth of 10 Hz to 5 kHz and averaged by a PDP 12 computer (sweep time 17 msec; 2000 sweeps). In order to exclude technical artifacts, records were taken from a control group of patients with unilateral deafness after fracture of the temporal bone. The potential was recorded from all over the human scalp. The maximal amplitude of 0.4 μV was found between vertex and protuberantia occipitalis externa. Variation of the click intensity rendered the following results: the potential was traceable down to the subjective threshold; latency had a very low variance for higher sound levels; response amplitudes increased approximately linear with click intensity. Reduction of stimulus intervals (160 to 20 msec) did not affect the response. Variations of muscle tonus, vigilance and sedation had no influence on the potential. The hypothesis is supported that the potential arises from lower structures of the auditory pathway than the late vertex potential. The method presented may be a useful contribution to objective audiometry because it offers a means to localize the origin of neuronal hearing disorders; the stable latency allows easy interpretation of the response and it requires extremely short examination time.

3723. Frequency distribution of the graphic elements in the EEG of healthy probands - HÄUFIGKEITSVERTEILUNG DER GRAPHOELEMENTE IM EEG GESUNDER PROBANDEN - Otto E. and Frauendorf H. -

ERGEBN.EXP.MED. 1972 8 (284-289)

In 100 healthy probands the distributions of the momentary frequencies of the EEG were determined from 2 s measurement segments in 32 leads. Comparison of the frequency spectra of several random samples from one lead showed a higher intraindividual range of variation than that stated in the literature.

3724. Investigation of mobility in cultivated nerve tissue of adult rabbits by the method of time lapse microcinematography - Sharipov I.K., Yenenko S.O., Sakhno Y.F. et al. - Inst. Biol. Phys., USSR Acad. Sci., Pushchino - BIOPHYSICS (Oxford) 1972 17/2 (255-261)

The mobility of cultivated nerve tissue of adult rabbits was studied by time lapse microcinematography. It was shown that the nerve tissue of adult mammals possesses different forms of mobility, viz. contractile activity of the glial cells with a period of 36-72 min, pulsation of the body of the neuron with a mean time for one cycle of 8 hr 40 min and of the nucleus with a period of about 7 hr, and a displacement of the marginal zone of the explant.

3725. Determination of forced periodic modes of respiration from the phasic characteristics - Baron V.D. - Moscow Physicotechn. Inst., Moscow - BIOPHYSICS (Oxford) 1972 17/2 (375-378)

In acute experiments on anesthetized cats periodic stimulation of the medial part of the fundus of the IVth ventricle causes reproduction of a set rhythm both by the respiratory neurons and the respiratory system as a whole. The experimentally demonstrated existence of the limits of transition from a type 1:1 mode of reproduction to modes of respiration with division of frequency is determined entirely by the phasic characteristic of the point of stimulation and the structure of the initial respiratory cycle.

3726. The telephone EEG. V: Results of telephonic transmissions of the EEG from institutions of the public health service of the Leipzig area - DAS TELEFON EEG. 5. MITTEILUNG: ERGEBNISSE TELEFONISCHER EEG ÜBERTRAGUNGEN AUS EINRICHTUNGEN DES GESUNDHEITSWESENS IM BEZIRK LEIPZIG - Laux H.J., Niebeling H.G., Muller M. and Killus K. - Forsch. Aussenstelle, Neurochir. Klin., Karl Marx Univ., Leipzig - DTSCH.GESUNDH.-WES. 1972 27/52 (2463-2466)

An 8 channel transmission plant for telephone EEG transmission was practically tested in 78 patients of a diagnostically inhomogeneous group of patients of 2 outpatient clinics and one regional hospital. 12 transmissions served technical purposes, 3 were disturbed by patient induced artefacts, and 63 could be visu manually evaluated without any problems. Pathologic EEG changes were found in 50% of the cases of diseases with cerebral affections, as against one fifth of the patients without suspected cerebral affection. As compared to the inpatients examined, the proportion of deviations from the normal was 1/3 higher among outpatients. The respective causes are elucidated. The medical and economic value of telephone EEG transmissions is once again underlined by the present results.

3272. Device for electric anesthesia in the machining of hard dental substance - GERAT ZUR ELEKTROANASTHESIE BEI DER BEARBEITUNG HARTER ZAHNSUBSTANZ - Rostowzew B.H. - Chowanskaja Uliza, d. 10/12, Korp. 2, kw 6a, Moskau - MED. TECHN. (Berlin) 1972 12/4 A (105-106)

A description is given of the principle and function of the ELOS-1, a device for painless machining of hard dental substances. This instrument neutralizes the electrical potential generated during machining of dental substance, which in turn generates the pains. Application hints are given.

3278. Application of the factor analysis method for evaluation of electroencephalograms -

ZASTOSOWANIE METODY ANALIZY CZYNNIKOWEJ DO OCENY ELEKTROENCEFALOGRAMOW - Kurp F. and Szymanski A. - Klin. Neurol. AM, Lodz - NEUROL.NEUROCHIR.POL. 1973 23/1 (17-23)

An attempt was made to apply the mathematical method of factor analysis for evaluation of electroencephalograms containing no visually perceptible pathologic elements. The calculations were done in 3 groups of 26 encephalograms each, obtained from healthy subjects, cases of traumatic cerebraesthesia, and cases of chronic trichloroethylene poisoning. The method of factor analysis made it possible to find in each of these groups certain complexes of characteristic features of alpha rhythm showing a strong correlation. In both groups with pathologic changes there was absence of the strong correlation between the profuseness and the amplitude of alpha rhythm clearly seen in the group of healthy subjects. On the other hand, the correlation between the asymmetry of profuseness and asymmetry of amplitude of alpha rhythm was not disturbed.

3279. A compact, maintenance free commutator for use in conjunction with chronic electrode preparations - Waldron K. and Phillips A.G. - Dept. Psychol., Univ. British Columbia, Vancouver - PHYSIOL.BEHAV. 1972 9/5 (881-883)

A light weight, inexpensive, maintenance free commutator for use with freely moving animals is described. This device uses spring tension brushes to maintain contact with a central armature, thus ensuring constant current delivery while permitting free rotation by the smallest of rodents.

3270. A source of scrambled constant current with solid state control - Belluzzi J.D. and Grossman S.P. - Dept. Psychol., Univ. Chicago, Ill. 60637 - PHYSIOL.BEHAV. 1973 10/1 (133-135)

A circuit is described that provides a constant current of 50-2000 μ A up to 45 grids in such a fashion that each is hot with respect to every other grid at all times without use of a scrambling device. The shock source is easily constructed of inexpensive parts and is compatible with solid state as well as electromechanical programming equipment.

3271. Computer aided localization techniques for stereotaxic surgery - Colloff E., Gleason C.A., Alberts W.W. and Wright Jr E.W. - Mt Zion

Neurol. Inst., San Francisco, Calif. - CONFIN.NEUROL. (Basel) 1973 35/2 (65-80)

Two computer programs were written which localize coordinates of interest for stereotaxic procedures using the Leksell frame. The first program computes frame coordinates for a given point in a reference brain atlas. Landmarks used are the anterior and posterior commissures and the brain midline. The input required are the X ray data for the coordinates of the commissures, X ray beam center, and the patient's brain midline. The second program computes the angles to be set up on the frame so that the electrode introducer will pass through two desired targets. The program will also compute the reference brain atlas coordinates for any point along a specific path of electrode introduction. The user can thereby determine the path of the electrode through various reference sections in the brain atlas. Inputs to the second program are the same as to the first plus the further input of either the two targets to be passed through or the frame angles to be used. Output is typed out immediately on the teletype.

3272. EEG spectral analysis by coherent optical processing - Winzer G. and Shamir J. - Res. Lab., Siemens AG, Munich - ELECTROENCEPH.CLIN.NEUROPHYSIOL. 1973 34/6 (659-664)

A possible way of describing some aspects of an EEG curve quantitatively is the evaluation of its power spectrum for a sequence of time epochs. To do this electronic devices are used for real time and post recording approaches. These approaches suffer from low resolution in the spectrum when a limited number of filter channels is used or a small storage capacity computing device is applied. In the post recording approach coherent optical processing was found to be a very useful tool for high resolution spectral analysis of ink traced curves. The technique described is well suited for single and multichannel analysis and was successfully tested on real multichannel EEG ink tracings. The simple provisional laboratory system which was devised to evaluate the power spectrum may be extended so as to extract highly compressed information, such as the variation of statistical moments with time.

3273. Comparison of techniques for analyzing photically evoked responses - Hess K.H. and Kato M. - Lab. Exp. Neurol., Nat. Inst. Neurol. Dis. Stroke, NIH, Bethesda, Md. 20014 - ELECTROENCEPH.CLIN.NEUROPHYSIOL. 1973 34/6 (669-671)

Two methods of evaluating visually evoked responses were employed in the long term observation of monkeys following the exposure of the right visual cortex to 3,500 rads of X irradiation. The first elicited the response in the EEG recording, from the right and left temporal occipital leads, by a series of repetitive photic stimulations. These ranged from 3 to 30 flashes/sec for periods of 10 sec each. Utilizing a Faraday Electronic BNI 20 x 2 low frequency analyzer the relative 'abundance' of particular frequency components was determined for the 10 sec epochs of EEG activity. The second method elicited the response by a series of individual photic stimulations. Thirty two responses from

the right and left temporo occipital leads were averaged, respectively, with the use of a 2 channel Fabritek computer. The frequency analysis and the averaged response both reflected an early decrease in amplitude over the irradiated visual cortex and a late decrease in amplitude over both visual cortices. Both methods were equally sensitive in detecting early changes. In the bilateral depression with small amplitude, the averaged response displayed differences between the two sides that the frequency analysis did not, while the late delta activity that accompanied destruction of neural tissue was clearly shown in the frequency analysis and was absent from the averaged response.

3734. Organization of memory - Ehrenfeucht A. and Mycielski J. - Dept. Computer Sci., Univ. Colorado, Boulder, Colo. 80302 -

PROC.NAT.ACAD.SCI.USA 1973 70/5 (1478-1480)

A new learning algorithm is presented that may have applications in the theory of natural and artificial intelligence.

3735. Monitoring intracranial pressure - Eversden I.D. - Atkinson Morley's Hosp., London - BIOMED.ENGINEERING 1973 8/5 (192-197)

An outline is given of the physiological processes involved in the control of intracranial pressure. The techniques used to measure this pressure have considerable shortcomings some of which are eliminated by using implantable pressure transducers. The characteristics of these devices are discussed and further details given of an outer chamber which may be applied to any transducer to allow calibration in situ. 2 examples taken from over 80 patient recordings indicate how useful continuous monitoring can be. A glossary of medical terms used in this paper and a list of manufacturers of transducers suitable for measuring intracranial pressure are listed in 2 appendices.

3736. A meter suitable for long term activity studies on small animals - Tuddenham A., Perry G.C. and Brittain F. - Dept. Anim. Husbandry, Univ. Bristol - PHYSIOL.BEHAV. 1973 10/3 (637-639)

A meter is described for activity measurements which is unaffected by moisture accumulation occurring during long term studies. Tuning sensitivity is unaltered by the presence of stationary metal objects. The meter reacts proportionally to speed and amplitude of movement thus providing a more meaningful record of gross body movement than a movement counting type of meter.

3737. Activity of the neurones of the ventral spinocerebellar tract during locomotion - Arshavskii Y.I., Berkinblit M.B., Gelfand I.M. et al. - Inst. Problems Informat. Transmiss., USSR Acad. Sci., Moscow - BIOPHYSICS (Oxford) 1972 17/5 (926-935)

In decerebrated cats the activity of the neurones of the ventral spino cerebellar tract (v.s.c.t.) located in the region of the base of the posterior horn and in the marginal zone of the spinal cord has been recorded. The neurones of the v.s.c.t. were excited during passive movement of both hind limbs in all or in a majority of

joints; in some of the neurones excitation also appeared during passive movements of the fore limbs. During locomotion of the cats elicited by stimulating the midbrain, modulation of the activity of the neurones of the v.s.c.t. appeared in the rhythm of stepped movements. Despite the complex organization of the afferent links of the neurones of the v.s.c.t. during locomotion most of the cells had a simple form of modulation: they generated only one packet of impulses each per step. The total activity of the neurones of the base of the posterior horn was maximum at the start of the support phase and of the neurones of the marginal zone in the middle of the transfer phase of the ipsilateral hind limb. The differences in the work of the neurones of the dorso spino cerebellar tract and the v.s.c.t. during locomotion are discussed.

3738. Work of the Purkinje cells during locomotion - Orlovskii G.N. - Inter Fac. Lab. Mathemat. Methods Biol., Lomonosov Moscow State Univ., Moscow - BIOPHYSICS (Oxford) 1972 17/5 (935-941)

The author recorded the activity of the Purkinje cells in the projection zone of the hind limb (II and III lobes of the intermediate region of the anterior lobe of the cerebellum) during locomotion of decerebrate cats. During locomotion most of the Purkinje cells increase their frequency and in many cells frequency modulation is observed in step with running. The maximum frequency usually coincides with the start of the support phase of the step of the ipsilateral hind limb. Modulation disappears on restraining the movement of the limbs.

6.12. Receptors

3739. The importance of disturbances of hearing and balance in road traffic - DIE BEDEUTUNG VON STORUNGEN DES HOR- UND GLEICHGEWICHTSORGANS IM STRASSENVERKEHR - Ey W. - Z.HOERGERAKUST. 1972 11/4 (130-134)

It emerges that in view of the apparently reviving importance of 'acoustic driving', otological examinations should be carried out with drivers, as has been repeatedly demanded by Jatho. This would by and large correspond to the visual efficiency check to which candidates for a driver's licence are subjected. Moreover, thought should be given to the possibility of how hard of hearing drivers can be enabled to drive by acoustical orientation rather than by vision. There may be need for the organ of balance to be checked during the otological efficiency examination. This seems to apply especially to persons with head injuries. The public and also the medical profession should be more intensively informed about the increasing dangers to which drivers under the influence of alcohol and drugs are exposed in traffic.

3740. Continuous objective measurement of accommodation of the human eye - KONTINUIERLICHE OBJEKTIVE MESSUNG DER AKKOMODATION DES MENSCHLICHEN AUGES - Krueger H. - Inst. Arbeitsphysiol., Techn. Univ., Munchen - OPTICA

Studies were carried out with an objective accommodometer with continuous recording. The principle of measurement is the imaging of a test sign with detailed structure on the retina. The test sign is continuously shifted over the main accommodation range of the eye and the site of sharpest imaging is measured automatically by electronic means. As determined by the technique of measurement, 50 accommodation values per sec are obtained. At an upper frequency limit of 1 to 2 cps for accommodation this may be regarded as a continuous registration. The test subjects were requested to follow by accommodation a fixed point which shifted with varying frequency between a near and a distant point. The distant point, at 0.5 D, was located in the region of the resting state of accommodation of the 5 test subjects. The resting position was determined subjectively by the method described by Mizukawa et al. The fixed mark was a circular disk with positive contrast. The measured accommodation values were 10 to 20% lower than expected with optimal focussing for all subjects. This percentage was independent of the value of the accommodation shift, within the accuracy of measurement. The monocular values were up to 5% smaller still. These 'static' end values were based on an iteration of the test sign every 5 sec.

3741. Pocket hearing aid 'H 50' - DIE TASCHENHÖRHILFE H 50' - Dieroff H.G. - HNO Klin., Friedrich Schiller Univ., Jena - MED. TECHN. (Berlin) 1972 12/4 A (121-123)

A report is given on the acoustic data of the new pocket hearing aid H 50. Comparative studies on patients with impaired hearing confirmed the advantages of the H50 for rehabilitation, which include appreciably improved acoustic reproduction and reduction of friction noise.

3742. On a possible method for quantifying the reversible perspective effect - Ronchi L. and Kiriakov N. - Res. Inst. Geodesy Cartogr., Sofia - ATTI FOND. GRONCHI (Firenze) 1972 27/6 (939-941)

An attempt is made to estimate the change of apparent depth occurring under prolonged viewing of the Necker cube, by means of a method currently adopted in stereophotogrammetric practice, while looking at the cyclopean anaglyphic version of the cube produced by Julesz. In addition, the distinction between the role played by binocular and monocular factors is emphasized, on the basis of the peculiar behavior of the sensation of depth after the occlusion of one eye: at first it drops abruptly and then it rises again more slowly.

3743. Acoustical communication between the members of the oriental hornet (*Vespa orientalis*) colony - Ishay J. and Schwartz A. - Dept. Psychol. Pharmacol., Tel Aviv Univ. Med. Sch., Beilinson Hosp., Tel Aviv - JACOUSTAMER. 1973 53/2 (640-649)

The authors described the noise occurring in a hornets' nest, especially the 'hunger signals' of the larvae, and the noise made by the workers' 'dances' around the queen. The present work is

an analysis of the whole acoustical spectrum of noise made by individual larvae and by adults, the conclusion being that the 'hunger signals' sent out by the larvae of males, of workers, and of queens, differ from one another and from the 'hunger signal' sent out by the corresponding individual species of hornet, the *Vespa crabro*, which is widely found in Euroasia. Apart from this, two different kinds of noise created by the workers themselves may be clearly distinguished. They too, have been found to be not only dissimilar to each other, but also to the 'hunger signals' emitted by the larvae. The 'musical instrument' on which the nest members 'play' is the comb, its supplementary use thus being the transmission of information by acoustical methods. The different 'channels' used for this purpose ensure that transmission of one 'message' does not interfere with any other.

3744. Liquid level detector for use by the blind - Roberts R.W. and Jernakoff G. - Gen. Electric Res. Developm. Cent., Schenectady, N.Y. 12301 - REV. SCIENT. INSTRUM. 1973 44/2 (233-234)

A novel, safe device is described which indicates when a vessel is filled to some predetermined level with a conducting liquid.

3745. Time contradictions of the hypothesis of the correction role of saccadic movements of the eyes - Filin V.A. and Ananin V.F. - All Union Res. Inst. Med. Instrumentat., Moscow - BIOPHYSICS (Oxford) 1972 17/4 (757-761)

On the basis of calculations it is shown that the minimum time of formation of afferent signals on displacement of the point of fixation during drift is 40 msec while the minimum time of the reflex arc (retina - CNS - eye muscle) is 190 msec. Taking into account the speed of the drifts, the threshold displacement on the retina and the latent period of the oculomotor reflex, the appearance of the next jump through displacement of the point on the retina is improbable at intervals of less than 400 msec. With less reliability such a statement may also be extended to jumps with intervals up to 1450 msec. The proportion of jumps with intervals up to 400 msec is about 40%. The nature of these jumps cannot be considered reflex and consequently they are not connected with the drift in the correction sense.

3746. Evaluation of optical radiation hazards - Sliney D.H. and Freasier B.C. - Laser Microwave Div., US Army Environm. Hyg. Agency, Edgewood Arsenal, Md. 21010 - APPL. OPT. 1973 12/1 (1-24)

Methodology for the evaluation of potential optical radiation hazards has been developed in response to the increasing use of high radiance optical sources, such as lasers, compact arc lamps, tungsten halogen lamps, and electronic flash lamps. Recent biological investigations of injury from ultraviolet radiation and studies of chorioretinal injury from high radiance sources permit a realistic ocular hazard evaluation. Safe exposure criteria that may be readily applied to practical situations have been developed from the available biological data and from experience with occupational hazards. Hazard evaluation techniques, hazard data, and general control

measures are provided for a number of commonly encountered ultraviolet, visible, and infrared sources.

3747. Hard rock's high dB's and your hearing - Merino Y Coronado - RADIO ELECTRONICS 1973 44/3 (68-89)

The author reports in relation with ear damage risks sound level measurements in discotheques and other similar locations.

3748. Computer for sampling, recording and evaluating action potentials within the visual system, especially of the electroretinogram - EIN ELEKTRONISCHER RECHNER ZUR DARSTELLUNG, SPEICHERUNG UND AUSWERTUNG VON AKTIONSSSTROMEN AM AUGE, SPEZIELL DES ERG - Rix R. - Augenklin., Univ. Erlangen Nurnberg - ALBRECHT V.GRAFES ARCH.OPTHAL. 1973 186/3 (227-233)

The paper describes the construction of a digital laboratory computer (Lab 8e, Digital Equipment Corporation) and deals with early experiences in its clinical and neurophysiological use in the Eye Clinic of the University of Erlangen Nuernberg. Special peripheral input output devices in combination with a core memory of 8 K and a cycle time of 1.2 μ s facilitate faster and more accurate evaluation of electroretinogram and also of visually evoked cortical potentials than is possible with manual methods.

6.13. Locomotor apparatus

3749. Mechanical factors affecting the evoked pressures from a simple twitch monitor - Shanks C. and Harrison G.A. - Roy. Prince Alfred Hosp., Sydney - ANAESTH.INTENSIVE CARE 1972 1/2 (154-156)

A syringe and aneroid manometer were employed to quantitate neuromuscular blockade. The most important factors shown to vary its response were its air volume and the angulation of the syringe from the vertical. But even when these were held constant, the resultant pressures were not linearly related to the generative impulses. It is suggested that although this type of apparatus is not very accurate, the simple and inexpensive mechanism could benefit the practical anesthetist monitoring no depolarizing relaxants, providing its limitations are appreciated.

3750. The design of a complete arm prosthesis - Simpson D.C. and Kenworthy G. - Bio Engin. Cent., Princess Margaret Rose Orthop. Hosp., Edinburgh - BIO-MED.ENGINEERING 1973 8/2 (56-59)

This article describes an externally powered upper limb prosthesis that was designed to meet the following constraints: that the physical dimensions of the arm should not exceed those of the normal arm, including weight; that its joints should be as far as possible in the correct anatomical position; that its sphere of movement should be similar to that of the normal arm; that it should be capable of unconscious control by the user; and that its demands on its energy store should be low enough to allow them to be satisfied simply. The effects of these constraints on the practical design of the prosthesis are

discussed under the four main headings: external energy system; mechanical construction and mode of action of the arm structure; control of the actuator or motors; and maintenance of the system.

3751. A gait recording technique suitable for clinical use - Ganguli S. and Mukherjee P. - Bioengin. Unit, Dept. Orthop., Univ. Coll. Med., Univ. Calcutta - BIO-MED.ENGINEERING 1973 8/2 (60-63)

The instantaneous velocity of the body's centre of gravity is an ideal parameter to be chosen for human gait study because it is most sensitive to any changes in body motion and is directly related to the external forces causing these motions. This paper describes a gait recording technique where the instantaneous velocity of the centre of gravity versus time curve has been designated as the 'gait curve'. The special feature of the technique is that it utilises a portable transistorised ECG as the recording unit instead of the conventional cathode ray oscillograph. For rapid analysis and assessment of the gait quality, the technique makes use of the time interval data which is readily available from the gait curve. The simplicity of the instrumentation and interpretation of the recorded data makes the technique suitable for use in orthopedic and physical medicine clinics and artificial limb centres.

3752. A below knee prosthesis with a porous socket - Faulkner V. and Pritham C. - Dept. Orthop., Univ. Virginia, Charlottesville, Va. - ORTHOT.PROSTH. 1973 27/1 (1-5)

The advantages of a porous socket made from Lightcast are, the ability to permit the interchange of air and to some extent control the accumulation of fluids within the socket. Lightcast affords a light, porous, easily applied, and quickly cured material with a high resistance to impact for the construction of a prosthetic socket.

3753. A universal calibrator for steadiness of stance measuring platforms - Terekhov Y.V. - Aerospace Med. Div., USAF Sch. Aerospace Med., San Antonio, Tex. 78235 - AEROMED.REV. 1973 sam-tr-73-15 (6p)

A calibrator for biaxial electronic platforms designed to measure postural equilibrium is described. The device provides a convenient means of calibrating platforms of varying design and purpose.

3754. New instrumentation for measurement of man's stability of stance - Terekhov Y.V. and Grassman E.D. - Aerospace Med. Div., USAF Sch. Aerospace Med., Brooks AFB, San Antonio, Tex. 78235 - AEROMED.REV. 1973 sam-tr-73-12 (40p)

An instrumentation system for measurement of postural equilibrium in man has been developed. The device consists of an electronic platform which continuously measures the location of the physiologic gravicenter in the horizontal plane and a circuit which reduces this measurement to quantitative indices of stability of stance. The instrument is shown to be highly accurate and convenient to operate. Three recording versions of the system, each differing

in cost and complexity, are described.

6.14. Skin

3755. Vacuum elongation tonometer for the quantification of skin tonus - EIN VAKUUM ELONGATIONS TONOMETER ZUR QUANTIFIZIERTEN BESTIMMUNG DES HAUTTONUS - Ude P. - Hautklin., Christian Albrechts Univ., Kiel - THERAPIEWOCHE 1972 22/48 (4273)

A vacuum elongation tonometer was developed for the quantified determination of the vital turgor or tone of the skin. Its design is described. The provisional evaluation of 700 measured values confirms the usefulness of the instrument for routine investigations into age changes, differences between the sexes and the skin regions.

6.17. Radiology

3756. A Simple rat restraining device for radiobiological studies- Natarajan S. and Nayak N.A. - Inst. Nucl. Med. All. Sci., Delhi - INDIAN J.RADIOL. 1972 26/1 (36-37)

The device is inexpensive as it can be constructed in the laboratory. The rats can be irradiated either one at a time or 4 at the same time. This device can be used to carry out partial body irradiations by exposing the required portion alone and shielding the rest of the body by lead sheeting. Scatter factors are eliminated as this device is constructed from wood and perspex materials.

3757. Selective carotid angiography with a new catheter needle assembly (Japanese) - Fukushima T., Manaka S. and Hirayama K. - Dept. Neurosurg., Tokyo Police Hosp., Tokyo - BRAIN NERVE (Tokyo) 1973 25/2 (218-222)

The diagnostic value of selective carotid angiography has been well established. Selective external carotid angiography is useful for the accurate diagnosis of the extracerebral lesions of the head and neck. As for the method of selective catheterization, various techniques have been reported. The author reported two types of catheter needle assembly: curved stylet method and curved catheter method. It was confirmed through the clinical experiences in 50 cases, that these methods are easy, safe, and certain.

3758. Whole body immobilizer - Larose J.H. - Emory Univ., Atlanta, Ga. - J.NUCL.MED. 1973 14/5 (301-302)

The whole body immobilizer is a comfortable and useful device that does not significantly scatter the Tc99m gamma rays or affect scan image quality.

3759. The calculation of ionization chamber collection efficiency for pulsed beams - Armstrong D.I. - Dept. Med. Phys., Christchurch Hosp., Christchurch - PHYS.MED.BIOL. 1973 18/2 (293-295)

If an X ray or electron generator is used

clinically under conditions such that ion current saturation is not achieved, a rapid method for calculating collection efficiency is needed for routine calibration. A graph may be used to determine quickly and accurately the collection efficiency of a dosimeter directly from the dosimeter reading. A graph for a Baldwin Farmer dosimeter is presented.

3760. Modulation transfer function and efficiency of transparent luminescing materials - Gasper J. - Res. Lab., Eastman Kodak Co., Rochester, N.Y. 14650 - J.OPT.SOC.AMER. 1973 63/6 (714-720)

Transparent luminescing screens can be used as image transducers in radiographic and image intensifier systems. The modulation transfer function (MTF) and efficiency of these screens when used in conjunction with a receiver or recording medium are obtained from the derivation of the point spread function of the screen receiver system. The derivation accounts for all optical paths and attenuations of the luminescent energy producing the spread function. Both the theoretical MTFs and energy transducing efficiencies of several screen receiver systems are presented for various system parameters. The MTF of an actual (ZnS) screen film system, computed from this derivation, was found to be in excellent agreement with the MTF of the system determined by photographic photometry.

3761. Improved optical magnification for fine detail radiography - Mall J.C., Genant H.K. and Rossmann K. - Dept. Radiol., Univ. Chicago Hosp. Clin., Chicago, Ill. 60637 - RADIOLOGY 1973 108/3 (707-708)

The authors describe the use of a commercially available device for optical magnification in conjunction with fine detail radiography to enhance diagnostic capabilities in patients with peripheral skeletal disorders. The advantages of this method of optical magnification are discussed.

7. SURGICAL INSTRUMENTS

3762. Bipolar coagulation with modified conventional electrocoagulators: technical note - Gestring G.F., Koos W.T. and Boeck F.W. - Dept. Neurosurg., Univ. Vienna - J.NEUROSURG. 1972 37/4 (501-504)

The authors describe a simple method of bipolar coagulation adaptable to most available electrocoagulators while preserving the capacity for unipolar electrosurgery when desired. The advantages of bipolar electrocoagulation are: minimal current spread to adjacent tissues; only a fraction of the current is necessary; elimination of undesired secondary burns; effective coagulation under irrigation; no assistance necessary for switchover from electrocoagulation to electrosurgery; and coagulation only between the tips of the forceps, hence accidental branch contact with the margin of the operation site is harmless.

3763. Tensor and support instrument for

implantation of vessel constrictors - SPANN- UND HALTEVORRICHTUNG ZUR IMPLANTATION VON GEFÄSSKONSTRIKTOREN - Neef H. and Beschauner B. - Chir. Univ. Klin., Martin Luther Univ., Halle Wittenberg - ZEXPCHIR. 1973 6/2 (131-134)

A tensor and support instrument is described which can be used for the implantation of vascular constrictors. Its advantages are: easy handling and implantation, unrestrained visual field even in narrow and deep operative fields.

3764. A new corset balloon catheter for transluminal recanalization according to Dotter with special reference to obliterations of the pelvic arteries - EIN NEUER KORSETT BALLONKATHETER ZUR TRANSLUMINALEN REKANALISATION NACH DOTTER UNTER BESONDERER BERÜCKSICHTIGUNG VON OBLITERATIONEN AN DEN BECKENARTERIEN - Porstmann W. - Abt. Kardiovask. Diagn., Bereich. Med., Humboldt Univ., Berlin - RADIOLDIAGN. (Berl.) 1973 14/2 (239-244)

Description of a new balloon catheter set in which the deformation of the balloon normally occurring in its expansion against resistance is prevented by a corset. The balloon catheter is introduced into an external catheter having 4 longitudinal slits at the level of the balloon to be expanded. Thus the balloon is captivated and protected against deformations. The catheter set is intended for percutaneous introductions. Locally the possible dilatation by the internal balloon catheter is 4 to 5 fold of the external catheter diameter. This principle was used for the additional dilatation of arterial stenoses in connection with the transluminal recanalization of obliterated arteries according to Dotter. It appears especially suitable for the transluminal treatment of stenoses of pelvic arteries.

3765. A silicone plastic cup for cutting corneal transplants - McCulloch C. - Dept. Ophthalmol., Univ. Toronto - CANAD.JOPHTHAL. 1972 7/3 (366-367)

A plastic cup for a donor corneal button is described. Cornea is placed, face down, in the cup and the graft is trephined out from the posterior surface.

3766. A simple instrument designed to simplify measurement of required nail length during fixation of a fractured neck of femur - Hampson W.G.J. - Roy. Infir., Bristol - INJURY 1973 4/4 (350-352)

Possible causes of inaccuracy in estimating the required length of nail for a fractured neck of femur are discussed. A simple instrument designed to make correct measurement easier is described.

3767. Target tissue pressures in three water jet devices - Selting W.J. and Bhaskar S.N. - Dept. Biomed. Engin., US Army Inst. Dent. Res., Walter Reed Army Med. Cent., Washington, D.C. 20012 - J.DENT.RES. 1973 52/3 (441-446)

The fluid delivery rate and target tissue pressures of 2 new water jet devices were compared with the rate and pressure of a single jet device. The new devices deliver larger volumes of water and produce greater pressures.

8. NEW INSTRUMENTS

3768. A solid state linear indicator for avionic display systems - Gratze S.C. and Loker T. - MARCONI REV. (Gr. Baddow, E. Essex) 1973 36/188 (57-66)

The design of a modular solid state linear indicator (tape scale) display based on gallium arsenide phosphide light emitting diodes is presented. The construction and performance of the light emitting diodes and display modules is described and the driving circuitry required for the display is discussed.

9. COMPUTER APPLICATIONS

9.1. Hospital automation

9.1.1. Laboratory techniques

3769. The relationship of blood urea nitrogen and serum uric acid: a computerized analysis - Newman L.B., Anderson E.E., Waggoner M.D. and Schulman C.C. - Dept. Surg., Div. Urol., Duke Univ. Med. Cent., Durham, N.C. - ACTA UROLBELG. 1972 40/4 (784-787)

The relationship of blood urea nitrogen (BUN) and serum uric acid was statistically studied in 617 patients. The results show a significant correlation between BUN and serum uric acid, the relation being different in cases where BUN is normal and abnormal.

3770. The design and construction of a computer compatible system to measure and record optical retardation with a polarizing or interference microscope - Dvorak J.A., Clem T.R. and Stotler W.F. - Lab. Parasit. Dis., Nat. Inst. Allergy Infect. Dis., NIH, Bethesda, Md. 20014 - J.MICROSC. 1972 96/1 (109-114)

The design, construction and operation of a computer compatible system to measure and record optical retardation with a polarizing or interference microscope is described. The system consists of a high precision potentiometer linked directly to the drum vernier of a compensator or analyser. A highly stabilized fixed voltage is applied to the potentiometer and the voltage difference between the potentiometer wiper and one end of the resistance element is directly proportional to the compensator or analyser angle. This voltage is converted to a digital format, interfaced with a digital time base and stored on punched paper tape for subsequent computer analysis.

3771. Computer analysis of antimicrobial sensitivity test results. A preliminary study - Hulbert J. - Dept. Bacteriol., Univ. Dundee - SCOT.MED.J. 1973 18/2 (59-62)

A system for the computer analysis of antimicrobial sensitivity test results is described, and the computer flow chart is illustrated. Its purpose is to detect, among strains of bacteria isolated from clinical sources, the emergence of linked resistance to several antibiotics, and to study its development.

3772. Pitfalls in digital computation of the impulse response of vascular beds from indicator dilution curves - Gamel J., Rousseau W.F., Katholi C.R. and Mesel E. - Dept. Informat. Sci., Univ. Alabama, Birmingham, Ala. 35294 - CIRCULAT.RES. 1973 32/4 (516-523)

Many methods are available for digital computation of the impulse response from indicator dilution measurements representing input and output signals. In all instances, the only criterion for validity of the computation is comparison of the reconvolution of the computed impulse response and the input with the actual output. In this paper, a model mathematical system was constructed with a known impulse response; noise and time variation could be introduced independently or simultaneously in the input and the output data. Six methods for digital computation of the impulse response were applied to data from this system and to actual dye dilution data. Precision of reconvolution did not assure that the computed response would resemble the actual response of the system. Some numerical considerations also significantly affected the digital computation of a valid response.

3773. ECLIPS: an extended clinical laboratory information processing system - Hamilton W.F. and Raymond S. - Dept. Indust., Univ. Pennsylvania, Philadelphia, Pa. 19104 - COMPUT.BIOL.MED. 1973 3/1 (3-12)

The clinical laboratory is regarded as a component of the medical care system extending from physician to laboratory staff and back to physician. From this concept a computer based system of laboratory information is derived, emphasizing: total laboratory responsibility for the test and its request, and physician oriented output reports.

9.3. Clinical diagnosis

3774. An improved method for a detection of the electroretinogram in retinitis pigmentosa - Ohba N. and Yamamoto T. - Dept. Ophthalmol., Univ. Tokyo Sch. Med., Tokyo - JAP.J.OPTHAL. 1972 16/3 (183-189)

In order to achieve a reliable recording of small electroretinographic responses, modifications of the technique were employed: a ganzfeld (uniform illumination of retina) stimulation which permitted a maximal summation of the potentials from a large number of retinal elements, a computer of average transients to improve the signal to noise ratio, and a tape recorder delay system for selection of artifact free responses for averaging. This modified technique proved that even very small responses could be reliably and easily recorded from virtually all subjects with retinitis pigmentosa, while the conventional recording technique failed to detect any definite responses.

3775. Computerized left ventricular mechanics and control system analyses models relevant for cardiac diagnosis - Ghista D.N., Patil K.M., Gould P. and Woo K.B. - Biomech. Div., Indian Inst.

Technol., Madras - COMPUT.BIOL.MED. 1973 3/1 (27-46)

Two left ventricular models, relevant to cardiac diagnosis, are presented. The first is a Computer based Finite Element Stress Analysis model of the left ventricle (LV) aimed to account for the irregular left ventricular geometry obtainable from single plane cineangiocardiology. The in vivo data for the model consists of instantaneous left ventricular chamber pressure and cine. The calculated wall stresses are compared with idealized geometry models. The finite element model is better able to delineate the stress concentrations at sites of large curvatures. The second model consists of a control system model of the LV, which formulates the interaction of the mechanics of the LV and the lumped parameter circulatory system by the central nervous system's monitoring of the mean arterial pressure, regulation of the heart rate, left ventricular contractility and the peripheral impedance. The model is parametrically simulated for a subject by means of the continuous system modelling program (CSMP); then the simulated model's response to a physiological stress simulating pressure perturbation is determined; the model enables an assessment of the physiological stress sustaining capacity of a subject.

9.4. Electrodiagnosis

3776. On line data processing of radioisotope scintigraphy using a small computer (Japanese) - Saegusa K., Arimizu N. and Kakehi H. - Dept. Radiol., Chiba Univ. Sch. Med., Chiba - NIPPON ACTA RADIOL. 1972 32/7 (587-594)

In conventional radioisotope scintigraphy the image is interpreted by human visual systems as qualitative patterns. However, the process sometimes results in the loss of much diagnostic information. A small computer was used for delineating the digital images and their further analysis. The original data either from an Anger camera or a whole body scanner are fed into the 4K core memories of the computer in the digital form. The field of view contains about 1K image cells over the areas of $30 \times 30 \text{ cm}^2$ to $50 \times 180 \text{ cm}^2$. For kinetic studies of digital images, 8×8 image cells are adopted over the field of view and 32 frames are successively stored at the intervals of choice. As instructed by a program set up in advance, the computer performs mathematical procedures on the stored data, displaying the processed images so that the human eye can easily extract the diagnostic information. 5 methods of image processing are described: smoothing, subtraction, contrast enhancement, differential imaging, and dynamic histograms on a regional area of interest.

9.4.1. Electrocardiography

3777. A technically simple input of data for demonstrating and evaluating the vector electrocardiogram by means of an electronic data computer - UBER EINE TECHNISCH EINFACHE

MOGLICHKEIT DER DATENEINGABE FÜR DIE ERMITTLUNG UND AUSWERTUNG DES VEKTOR ELEKTROKARDIOGRAMMS MIT HILFE ELEKTRONISCHER DATENVERARBEITUNGSANLAGEN - Grauerholz H. - Klin. Pferdekrankh., Freie Univ., Berlin - BERL.MUENCH.TIERAERZTL.WSCHR. 1973 86/8 (144-146)

The greatest difficulty in evaluating ECGs by means of computer lies in transmitting the ECG curve to the circuit. By interpolating some sections of curves and correlating nonsimultaneous registered leads in the computer it was found possible to reduce considerably the time needed to measure and program the ECG material. Further measures undertaken to reduce work are the relatively long measuring interval of 0.01 seconds and the omission of every superfluous program. In the case of the horse, 3 programs are sufficient to determine the 3 spatial components of the vectors.

3778. ECG automatic analysis - L'ANALYSE AUTOMATIQUE DE L'ELECTROCARDIOGRAMME - Ducimetiere P. and Gelin J. - Unit. Rech. Statist., INSERM, Villejuif - REV.PRAT. (Paris) 1973 23/29 (2605-2619)

The authors first outline the principles of ECG automatic analysing system with special emphasis on the difficulties they raise. They then attempt a critical evaluation of the results obtained by the various teams who studied the problem. It seems to them that the main indications apply to the fields of electrocardiographic research or screening of anomalies in the course of mass medical examination.

9.4.2. Electroencephalography

3779. Zero cross EEG analysis: Effects of noise - Carrie J.R.G. - Neurophysiol. Serv., Methodist Hosp., Baylor Coll. Med., Houston, Tex. 77025 - INT.J.BIOMED.COMPUT. 1973 4/2 (97-103)

Techniques for EEG quantification which use zero cross detection have been used by several investigators. If small amplitude noise is mixed with the EEG signal, errors will arise if a zero cross detector is used to measure average values for wave duration, frequency, or peak to peak amplitude. Noise that can cause significant interference with the measurement of the EEG signal may not be detectable by visual inspection of the orthodox tracing. Variables that determine the magnitude of this interference include the signal to noise ratio, the signal sampling rate where analog to digital conversion is used, and the minimum wave duration that is accepted for inclusion in the calculation of the EEG characteristics. The effects of changes in these variables on EEG measurements obtained using typical EEG quantification equipment are illustrated in this report. Methods for assessing and minimising the effects of interference due to noise are proposed.

3780. The automatic estimation of epileptic spike activity - Hill A.G. and Townsend H.R.A. - Computer Unit Dept. Surg. Neurol., West. Gen. Hosp., Edinburgh - INT.J.BIOMED.COMPUT. 1973 4/2 (149-156)

A real time unsupervised method for recognising epileptic spikes has been described, relying on measurement of the peak angle. The bimodality of the distribution is adduced as evidence that spikes are a quite different phenomenon from the underlying activity. This method now enables routine estimations of spike rates to be carried out. The standard errors of the estimates are of the order of 6 to 10% of the estimated value.

9.7. Radiotherapy

3781. The Medela system, structuring and computer processing of radiologic information (Swedish) - Brolin I. - SPRI RAPP. 1971 25 (41 p.)

The Medela system has been developed to make it possible to computerize the information in radiologic reports. The model for the system is the branching tree structure. The conceivable items are presented to the radiologist as listed words and/or sketches. These items are typed or drawn on different frames in connection with the compilation of the system, and the frames are projected on the screen of a display unit - the Medela terminal. The texts corresponding to the items compose the radiologic report, which can be automatically transmitted to the receiving station and stored in the computer. The data are fed into the computer by indicating the number of the items on a small keyboard. Two examples of Medela compiled reports are given. Appendices include registers of all the frames in the current system, as well as models for frame changing and precedence matrices for some parts of the system.

3782. MSF: a computer assisted radiologic reporting system. I. Conceptual framework - Mani R.L. and Jones M.D. - Comprehensive Hlth Serv. Inc., San Francisco, Calif. 94117 - RADIOLOGY 1973 108/3 (587-596)

The traditional method of preparing radiologic reports is compared with that of a computer assisted mark sense reporting system. The design, operation, and accessory functions of this system are described. This system uses a mark readable form which codifies many of the routine procedures and radiographic findings and, using combinations of these, can generate over twenty million reports from a single form. Differences in time and cost of individual reports are discussed, as are the means by which geographically separate departments may share the same computer based system. The system provides a rapid, accurate, and simple means of transmitting bulk repetitive data, thereby allowing the radiologist to concentrate on cases requiring prolonged study.

9.10. Function tests and techniques

9.10.1. Blood circulation

3783. Thermodilution measurement of cardiac output. A study in dogs comparing direct FICK

with an automated thermodilution method (Fischer cardiac output computer) - Arfors K.E. and Malmberg P. - Dept. Exp. Med., Pharmacia AB, Uppsala - ACTA CHIRSCAND. 1972 138/8 (761-764)

An automated thermodilution method for cardiac output measurement has been compared with a direct Fick method in dogs. In 109 determinations in 19 dogs close agreement was found between the two methods at different levels of flow. The automated thermodilution technique seems to have a precision and validity comparable to conventional methods.

9.10.2. Respiratory system

3784. An ergospirometry arrangement with on line data processing by a microcomputer - EINE

ERGOSPIROMETRIE ANLAGE MIT ON LINE DATENVERARBEITUNG DURCH MIKROCOMPUTER - Howald H. - Forsch. Inst., Eidgenoss. Turn Sportsch., Magglingen - MED.MARKT ACTA MED.-TECHN. (Berl.) 1973 21/4 (115-120)

A fully electronic ergospirometric unit, based on an open system with online data processing by the Olivetti microcomputers P 102 or P 602, is described.

9.10.3. Nervous system

3785. Computer program for the evaluation and interpretation of the MMPI - EIN COMPUTERPROGRAMM ZUR AUSWERTUNG UND INTERPRETATION DES MMPI - Gehring A. and Blaser P. - Hoffmann La Roche & Co. AG, Basel - PSYCHOLOGIE (Bern) 1972 31/4 (292-297)

The different steps of MMPI interpretation are shown, and it is demonstrated that a computer can be programmed to simulate the psychologists work.

3786. Computers in behavioral science. A comprehensive automated psychological examination and report (CAPER) - Paitich D. - Clarke Inst. Psychiat., Toronto - BEHAV.SCI. 1973 18/2 (131-136)

A program is described that generates psychological reports automatically for a battery of standard measures of intelligence and personality in adults. Problems are encountered in the programming of a battery of tests that are not present in the single test automated systems that are available. The standard measures include the Raven, MMPI, and 16PF as measures of nonverbal intelligence, psychopathology and personality traits, respectively. Newly developed measures also are included, namely, a multiple choice version of the WAIS vocabulary subtest, a questionnaire dealing with family interaction, and a sexual history questionnaire. All tests are interpreted by simple procedures that involve the printing of sentences or short paragraphs when scores fall in a given range. In the case of the MMPI/the configural systems of Gilberstadt and Duker, Marks and Seeman, and the Mayo Clinic have been included. The system provides a comprehensive clinical report that seems adequate

and that requires little time for a psychology staff member.

3787. Interactive computer strategies for living nervous system research - McCann G.D. - Dept. Appl. Sci., California Inst. Technol., Pasadena, Calif. - IEEE TRANSEBIOMED.ENGNG 1973 BME 20/1 (1-11)

New research strategies for living nervous system research are described. These employ rapid interactive computer processes for such basic functions as experiment control, data abstraction, and the on line interpretation of nervous system functions. The concepts are illustrated by studies of complete insect nervous systems comprising about 350 morphological classes of neurons. They have made possible the analysis of 30% of these classes. Experiments have been possible that record simultaneously from more of these units and more precisely define detailed functional properties. In such research where the preparation life is short, it is important to test each preparation as thoroughly as possible before it deteriorates. This becomes increasingly important as more detail is sought through more complex multistimulus multiresponse experiments. The procedures described have made important advances in these aspects of nervous function research.

3788. The present status of computer technology and its application areas among psychophysicologists with five year projections - Kahn S.D. and Swint Jr E.B. - Dept. Psychiat., Emory Univ., Atlanta, Ga. - PSYCHOPHYSIOLOGY 1973 10/2 (186-190)

A survey of computer utilization among Psychophysiology subscribers is reported. Of 170 respondents, 73% have present access to one or more computers, and 17% expect access in 2 to 5 yr. Computer users are analyzed with respect to their primary fields of interest, the physiological variables they are measuring, their choice of equipment, and their software development resources including access to programmers. Attitudes of users regarding the importance of the computer for their work, and its impact on their choice of research problems are described. Five year projections are given, revealing the strong trend to real time small computers and the growing software shortage among present users. Respondents generally favored a systematic exchange of programs among users.

3789. Computer assisted testing - COMPUTER UNTERSTUTZTE TESTDIAGNOSTIK - Burli A. - PSYCHOLOGIE (Bern) 1973 32/1 (26-45)

This review demonstrates modern applications of the computer to the administration, scoring, and interpretation of psychological tests. Computer assisted test administration is particularly valuable when branched testing is used. Many categories of tests (i.e. intelligence, school, inkblot, sociometric, questionnaires, etc.) are already scorable by computer. Automatic test interpretation is most advanced with respect to questionnaires.

3790. Computer acquisition of multiunit nerve spike signals - Stagg D. - Dept. Neurophysiol., Inst. Neurol., London - MED.BIOL.ENGINEERING 1973

Two methods are described for the computer acquisition of multichannel, multiunit nerve spike sequences. Both methods retain the spike peak amplitude information, so that separation of the component single unit populations can be carried out by the computer using this information. The first method uses analogue peak tracking to determine the spike amplitude, while in the second method the spike shape is reconstituted from the continuously sampled signal, and the peak amplitude is determined digitally. The performance and implementation requirements of the two systems are compared.

3791. A small animal activity analysing system for behavioural studies - Cohen A. and Denenberg V.H. - Electric. Engin. Dept., Univ. Connecticut, Storrs, Conn. - MED.BIOENGINEERING 1973 11/4 (490-499)

Automated recording and data analysis of the activity of small laboratory animals are often required for psychological and other forms of behavioral investigation. This paper describes such a system using an open field of 1.14 x 1.14 m. Three arrays of infrared light emitting diodes and phototransistors are used to locate the animal. Two of the arrays are used to generate an xy grid, while the third one is used to determine whether the animal is rearing. The position of the animal gives rise to both digital and analogue signals; so the equipment can be interfaced directly with a minicomputer, or coupled to an analogue recorder. Several activity parameters, such as the path length (absolute value of the line integral), the time spent at a predetermined area of the open field or the latency to move, are computed and displayed in digital form.

SUBJECT INDEX

(figures refer to abstract numbers)

abdomen, auscultation, sound, 550

-airway resistance, breathing mechanics, computer model, diaphragm, digital computer, lung compliance 2823

-angiography, radiodiagnosis, motion picture, 1200 cases, siemens puck, 3515

-fluoroscopy, occupational medicine, radiation protection, radiology, roentgen radiation, thorax, 1147

abdominal pain, computer, diagnosis, diagnosis, 472 patients, 1184

abscess drainage, irrigation, drainage, simple construction, 591

absorption, collagen, formaldehyde, sponge, resorption, 3197

-inspiration, nitrous oxide, oxygen, semiclosed circle circuits, 1939

absorption cell, microwave radiation, liquid, 4 gh., 3423

absorption spectroscopy, dipole theory, fluorescence, molecule, spectrometry, spectral shift, 2200

accelerator, atmospheric radioactivity, cell nucleus, nitrogen, retina, vision, 1118

-beta radiation, dosimetry, radiation protection, radiotherapy, roentgen radiation, safety aspects, 156

accelerometer, displacement transducer, movement, vibration transducer, calibration, 600

-piezoelectric transducer, damping, 598

accident, ambulance, trauma, victim, transport, stockholm, 748

-computer, data processing, digital computer, storage protection, 684

accommodation, bioengineering, blindness, eye, visual aid, 2338

-eye, measurement device, 1577

-myopia, recording in 76 eyes, 804

-observation method, cat, 2344

-refraction, vision, continuous measurement, 3503

-vision, continuous measurement, 3740

acetylcholine, adrenalin, cell membrane potential, skin, strophanthin, 2,4 dinitrophenol, 1717

-adrenalin, blood pressure, brain blood flow, medulla oblongata, papaverine, propranolol, measurements 1869

-atropine, nerve cell membrane, 2853

-brain cortex layer, evoked cortical response, 4 aminobutyric acid, evoked acoustic nerve response, sylvian gyrus, electrogenetical differences, dog, 1550

-calcium, fetus, heart muscle contractile force, noradrenalin, temperature, heart muscle contraction, measuring method, organ culture, mouse, 2731

-muscle contraction, muscle fiber, muscle spasm, sarcomere, slow muscle, ultrastructure, frog, 1673

-model, potassium, saliva, saliva gland, salivation, acinar cell, 2721

achilles reflex, reflex time, tendon reflex, 1108

acid base balance, acidosis, alkalosis, blood ph, computer program, teaching,

systematic approach, instruction and diagnosis, 3545

-blood, computer program, base excess, 855

-blood ph, body temperature, ph, modified singer hastings nomogram, 2197

-blood gas, blood ph, carbon dioxide tension, oxygen tension, ph, correct measurement, 2636

-computer, computer program, electrolyte balance, 1612

-computer, intensive care, 3159

acidosis, acid base balance, alkalosis, blood ph, computer program, teaching,

systematic approach, instruction and diagnosis, 3545

-blood, blood ph, hemodialysis, hemolysis, ph electrode, electrodeacidification, 3455

acinar cell, acetylcholine, model, potassium, saliva, saliva gland, salivation, 2721

acoustic nerve, auditory masking, cochlea nucleus, hearing, signal detection, superior olive,

sound perception, central auditory masking, theory, 921

-auditory masking, hearing, loudness, nerve potential, sound,

man, postmasking recovery, external meatus electrode, 2058

acoustic reflex, ear drum, middle ear muscle, reflex, tensor tympani muscle, 2056

-hearing, threshold, 1676

acoustics, noise reduction, sound transmission, sound absorption, 2059

actin, calcium, excitation contraction coupling, laser, muscle fiber, tropomyosin, troponin,

quasielastic scattering, 512

action potential, analog digital converter, computer, kymography, 1983

-air, membrane potential, phospholipid membrane, water, electric potential, 2077

-cathode ray oscilloscope, differential amplifier, oscilloscope, 3673

-data processing, osmotic pressure, data fitting, curve fitting, virial expansion, 538

activated carbon, phosphorus, suspension, water pollution, water treatment, 1846

active filter, 1345, 2934

-averaging, electromyography, 173

-amplifier, band pass filter, selective amplifier, tunable, variable q, 611

-amplifier, gyrator, 2530

-band pass filter, application, 170

-band pass filter, selective amplifier, design, 171

- band pass filter, design, 179
- band pass filter, selective amplifier, low q, 604
- converter, design, 1347
- design, optimization, 1348
- design, graphical method, 2121
- differential amplifier, 2523
- exponential line, 624
- equal capacitor filter, 1350
- electric filter, chebyshev filter, synthesis, 1354
- electric filter, modulation transfer function, analysis, 3294
- high pass filter, realisation, 180
- high pass filter, low pass filter, tunable filter, 2120
- induction, rl simulation, 1340
- low pass filter, distributed filter, 181
- low pass filter, design, 183
- low pass filter, operational amplifier, selective amplifier, philips tca 220, design, 3283
- notch filter, wien bridge, 176
- notch filter, double t filter, twin t, application, 606
- negative resistance, generator, design, 609
- negative resistance, generator, stability, 610
- notch filter, all pass filter, 1352
- negative resistance, generator, 2142
- nonlinear system, stability, 2521
- operational amplifier, 3285
- power line interference, notch filter, 1349
- phase equalizer, 2119
- rl realization, 1358
- rc realization, 1739
- resistance, frequency variable resistance, 2533
- selective amplifier, twin t filter, 616
- selective amplifier, adjustable, tunable frequency, 964
- selective amplifier, voltage controlled, linearization, 1360
- selective amplifier, factor, resonant frequency, amplifier gain, 2115
- synthesis, 3293
- voltage controlled filter, 1738
- zero pole sensitivity, 174
- actomyosin**, muscle contraction, sliding filament theory,
 - thread model, ultrastructure and contraction of isolated muscle actomyosin, 1670
- model, muscle contraction, myosin, sliding filament theory, thread model, contraction mechanism, 1702
- acute abdomen**, diagnosis, digital computer, variance, 552 patients, 3546
- adaptometry**, man machine interaction, 2864
- adductor muscle**, avoidance behavior, conditioning, muscle fiber potential, temperature, locust, 1911
- adenosine diphosphate**, adenosine triphosphate, elasticity, flagella, spermatozoon, stiffness, bull, 3595
 - crystal, 956
- adenosine triphosphatase**, glycerol, muscle fiber, muscle relaxation, sarcomere, rabbit, 545
- adenosine triphosphate**, adenosine diphosphate, elasticity, flagella, spermatozoon, stiffness, bull, 3595
 - calcium, computer program, data processing, ethylene glycol bis(2 aminoethyl)tetraacetate, muscle relaxation, spectrometry, 1174
 - muscle, myosin, electron spin resonance spectrometry, rabbit, 2788
- adhesive agent**, cement, cyanoacrylate, dentistry, glue, polymer, 3565
- administration**, computer, medical record, outpatients, 3554
- adrenalin**, acetylcholine, cell membrane potential, skin, strophanthin, 2,4 dinitrophenol, 1717
 - acetylcholine, blood pressure, brain blood flow, medulla oblongata, papaverine, propranolol, measurements, 1869
 - chlorpromazine, coronary artery flow, heart output, isoprenaline, left heart ventricle, propranolol, aorta balloon pump, dog, 1530
 - lipolysis, fat cell, perfusion system, 2246
- adrenergic system**, aqueous humor, intraocular pressure, mathematic model, 1123
- adsorption**, stochastic model, 2837
- adventitia**, heart valve prosthesis, stellite 21, thrombosis, waxy contamination, 1090
- aerosol**, air pollution, environmental health, monitoring, particle size, particle sizes, 1103
 - air pollution, environmental health, laser, smoke, detection system, 1543
 - atmosphere, environmental health, light, light transmission, aerosol analysis, 2243
 - atmosphere, environmental health, laser, light, light reflection, aerosol analysis, 2244
 - atmosphere, environmental health, light reflection, aerosol analysis, 2245
 - holography, laser, particle sizing, 700
 - infrared radiation, water vapor, 1481
 - infrared radiation, refraction index, 1512
 - sound, nonlinear system, hormone generation, 3691
- agarose**, gelatin, model, nuclear magnetic resonance, proton, 2101
- age**, bone, femur, growth, immobilization, tibia, vibration, bone piezoelectric potential, 132
 - brain, sex, skull, calculation measurements, 1909
 - chromosome, mathematic model, 885

- cell membrane permeability, muscle fiber membrane, ontogeny, potassium, sodium, soleus muscle, rat, 1665
- data processing, data reduction, digital computer, epidemiology, multivariate analysis, smoking, 1314 smokers, 176 non smokers, data reduction, age equivalence, 2969
- electroencephalography, evoked cortical response, eye, motivation, photostimulation, task performance, 3102
- population dynamics, sibling, branching process, sibling correlation, 3217
- aged**, artery, mathematic model, parameter, man, 2045
 - alarm monitoring, alone living elderly, 2802
- aggression**, brain, mathematic model, nerve cell, 588
- air**, action potential, membrane potential, phospholipid membrane, water, electric potential, 2077
- aircraft**, airplane crew, heart rate, stress, telemetry, 3329
 - holography, laser, sonic boom, supersonic aircraft, 3041
- air flow**, balloon, blood flow, bubble, capillary, lung alveolus, mathematic model, membrane, respiration, switch, nonlinear system, 3612
 - exercise, respiration, telemetry, flow measurement, 1758
- airplane crew**, aviation, blood pressure, heart rate, telemetry, electrocardiography, multichannel system, 2147
- airplane crew**, aircraft, heart rate, stress, telemetry, 3329
- air pollution**, aerosol, environmental health, monitoring, particle size, particle sizes, 1103
 - aerosol, environmental health, laser, smoke, detection system, 1543
 - computer model, environmental health, plant, power, 1410
 - computer, fluorescence, spectrometry, semiconductor detector, minicomputer, radiotracer, 2695
 - environmental health, monitoring, contaminating oxydant measurement, continuous sampling, 329
 - ecology, environmental health, sociology, water pollution, engineering aspect, 507
 - environmental health, infrared radiation, laser, spectrometry, hydrogen cyanide, water vapor, 1510
 - environmental health, monitoring, ozone, monitor calibration, 2376
 - environmental health, lung, particles 0.2-2 micron, steam condensation, 2747
 - environmental health, laser, light absorption, nitrous oxide, 3016
 - environmental health, ionization meter, radiation, radiation monitoring, tritium, 3029
 - environmental health, source location, 3255
 - fluorescence, mercury, water pollution, fluorescence detector, 694
 - fluorescence, fluorine, roentgen radiation, spectrometry, uranium, siemens srs, 1511
 - industrial health service, laboratory, 781
- airway**, airway resistance, lung alveolus pressure, lung pressure, lung resistance, model, oscillatory flow prediction, 64
 - airway collapse, lung model, model, airway flow, 111
 - airway pressure, cast, model, airway flow, flow physics, 112
 - airway resistance, bronchus, model, tube, airway flow, branched tube, 113
 - airway pressure, expiration, inspiration, model, airway flow, sinusoidal flow, 540
 - lung model, model, airway flow, model design, 61
- airway collapse**, airway, lung model, model, airway flow, 111
- airway flow**, airway, lung model, model, model design, 61
 - airway pressure, airway resistance, body plethysmography, breathing mechanics, lung compliance, mathematic model, panting, 65
 - airway, airway collapse, lung model, model, 111
 - airway, airway pressure, cast, model, flow physics, 112
 - airway, airway resistance, bronchus, model, tube, branched tube, 113
 - airway, airway pressure, expiration, inspiration, model, sinusoidal flow, 540
- airway pressure**, airway resistance, body plethysmography, breathing mechanics, lung compliance, mathematic model, panting, airway flow, 65
 - airway, cast, model, airway flow, flow physics, 112
 - airway, expiration, inspiration, model, airway flow, sinusoidal flow, 540
 - artificial ventilation, cava vein, cava vein blood flow, inferior cava vein, lung ventilation, vein blood flow, variously adjusted engstrom respirator, subdiaphragmatic flow pattern, dog, 2738
 - artificial ventilation, cava vein, cava vein blood flow, inferior cava vein, lung ventilation, vein blood flow, pressure control, subdiaphragmatic flow pattern, dog, bennett respirator, 2739
 - positive pressure ventilation, alarm monitoring, alarm system, child, 2800
- airway resistance**, airway, lung alveolus pressure, lung pressure, lung resistance, model, oscillatory flow prediction, 64
 - airway pressure, body plethysmography, breathing mechanics, lung compliance, mathematic model, panting, airway flow, 65
 - airway, bronchus, model, tube, airway flow, branched tube, 113
 - artificial ventilation, lung model, lung ventilation, engstrom respirator, lung model, 115
 - artificial ventilation, airway resistance in lung, 2293
 - abdomen, breathing mechanics, computer model, diaphragm, digital computer, lung compliance, 2823
 - artificial ventilation, breathing mechanics, computer model, intermittent positive pressure breathing, lung alveolus pressure, flow pattern study, 3717
 - lung compliance, lung resistance, respiratory tract resistance, measurement method, 3476
- alarm monitoring**, airway pressure, positive pressure ventilation, alarm system, child, 2800
 - aged, alone living elderly, 2802
 - micturition, newborn, urine sampling, 437
 - monitoring, telemetry, two terminal module, 2564

- telemetry, 2 terminal modules, 2146
- albumin iodine i 131**, glucose c 14, transfer time, 903
- albumin i 125**, gamma radiation, iodine 125, radiotracer, telemetry, implantation, rabbit, 1497
- alcohol**, bladder wall permeability, osmotic pressure, water, 1898
- aldosterone**, body water, cardiovascular system, computer model, henle loop, kidney tubule, mathematic model, model, renin, sodium, vasopressin, kidney proximal convoluted tubule, 2756
- alertness**, car driving, mathematic model, 3228
- algorhythm**, chromosome, computer, geometry analysis, 3556
 - computer, memory, organisation, 3734
- algorism**, computer model, immunodiffusion, diffusion, 1258
 - information theory, analog algorithm, 897
 - pattern recognition, pattern classification, 2026
 - stochastic model, linear system, 522
- alkalosis**, acid base balance, acidosis, blood ph, computer program, teaching, systematic approach, instruction and diagnosis, 3545
- allergy**, cell, digital computer, microscopy, phase contrast microscopy, trypanosoma, position indicator, pattern recognition, 3770
- allometry**, data processing, embryogenesis, data fitting, curve fitting, gompertz curve, 1240
- all or none law**, excitation, nerve conduction, nerve fiber membrane, strength duration curve, dipole model, quantum theory, 1315
- allosteric enzyme**, glycolysis, oscillation, phosphofructokinase, enzyme, chemical kinetics, glycolytic oscillation, 888
- alloy**, stainless steel, titanium, vitallium, zinc, metal, corrosion, implantation, 1213
- all pass filter**, active filter, notch filter, 1352
- alpha adrenergic receptor blocking**, electroencephalography, photostimulation, 1907
- alpha radiation**, digital computer, gamma radiation, spectrometry, semiconductor detector, 3027
 - environmental health, fluorescence, roentgen radiation, chemotracer, 3044
 - gamma radiation, semiconductor detector, cd te resistance, 1836
 - gamma radiation, semiconductor detector, cdte, 3028
 - radiation, gamma radiation, radiation detection, nuclear radiation, semiconductor detector, ge si alloy, 2218
 - radiation, scintillation counting, scintillator, liquid scintillator, pulse contour records, 2701
 - spectrometry, semiconductor detector, array detector, position sensitive, 2224
- alpha rhythm**, biofeedback, 572
 - behavior, conditioning, consciousness, electroencephalography, biofeedback, mapping method, 1114
 - central nervous system, electroencephalography, epilepsy, excitation, inhibition, mathematic model, nerve cell network, 940
 - computer model, electroencephalography, model, nerve cell potential, nerve cell, 2080
- alternating current**, blood pressure, electrostimulation, heart, rat, rabbit, near heart stimulation, 351
 - calorimetry, measurement, 2189
 - cadmium, copper, phosphorus, electroluminescence, cds cu powder, 2625
 - direct current, germanium, resistance thermometer, thermometer, cryogenics, 3384
 - electric power, power measurement, 3 voltmeter method, 2124
 - electrocardiography, electric interference, 60 hz interference, 3471
 - heart ventricle fibrillation, medical instrumentation, threshold, dog, 1533
 - magnetic field, power line interference, reduction, 2982
 - transformation, audio frequency, measurement, 2129
 - voltage stabilizer, rms stabilization, 194
- alternating current voltmeter**, operational amplifier, rectifier, 967
- aluminum**, band pass filter, chlorine, magnesium, roentgen radiation, titanium, 1 5 kev, 1059
 - blood, copper, hemolysis, nylon, stainless steel, teflon, polystyrene, implantation, 3698
- aluminum oxide**, bone, femur, titanium, attachment, electron microscopy, dog, 1581
 - bone, femur, growth, titanium, 2-8 weeks implantation, cylindrical channels, electron microprobe, dog, 1638
- ambulance**, breathing rate, sport, heart tape recorder, telemetry, recording, electrocardiography, double channel telemetry, 3328
 - hospital, public health service, telephone, survey, 648
 - trauma, victim, accident, transport, stockholm, 748
- ameba**, cell membrane, ehrlich ascites tumor cell, ultrasonics, microstreaming, mouse, 325
- americum 241**, cesium 137, cobalt 57, cobalt 60, gamma radiation, manganese 54, mercury 203, sodium 22, tantalum 182, semiconductor detector, yttrium 88, calibration, 2693
 - neutron radiation, spectrometry, 0.1-2.4 mev, 3431
- aminoacid**, analyzer, computer program, digital computer, drug analysis, 2402
 - cell extract, computer program, fortran, hydrolysate, automatic calculation, 2806
 - chromatography, drug, steroid hormone, thin layer chromatography, vitamin, 3380
 - genetics, model, statistics, taxonomy, alpha globin, dendrogram, network, chicken, 2842
- 4 aminobutyric acid**, acetylcholine, brain cortex layer, evoked cortical response, evoked acoustic nerve response, sylvian gyrus, electrogenetical differences, dog, 1550
- amnesia**, brain, memory, retrograde amnesia, aspects, 790
- amnion**, electrocardiography, fetus, heart rate, monitoring, pressure, review, technic, 436
- amplifier**, 603, 617, 3635
 - audioamplifier, fet semiconductor, 602
 - active filter, band pass filter, selective amplifier, tunable, variable q, 611

- arm prosthesis, electromyography, myoelectric control, prosthesis, transducer, 1131
- audioamplifier, integrated circuit, power amplifier, 2122
- active filter, gyrator, 2530
- brain depth recording, capacitance, microelectrode, stereotaxic implantation, capacitance neutralization 388
- computer memory, digital computer, mos semiconductor, driver, 607
- current meter, dosimetry, electron microscopy, logarithmic amplifier, picoammeter, 3286
- direct current amplifier, logarithmic amplifier, six decades, 613
- data processing, digital computer, on line computer, programmable amplifier, 1784
- differential amplifier, fet semiconductor, microelectrode, 3631
- electric motor, synchronous motor conversion, 623
- electromyography, low noise amplifier, 2116
- electrometer, ds2c amplifier, fet input modification, 2118
- electrode, miniature monolithic amplifier, 2532
- electric motor, 3632
- fet semiconductor, jfet, 3199
- high input, impedance, 2529
- lock in amplifier, phase detection, 608
- lock in amplifier, waveform independent, 965
- lock in amplifier, high frequency, heterodyne amplifier, 1353
- lock in amplifier, nuclear magnetic resonance, varian ha 100, 1483
- microwave radiation, impatt diode, 961
- nerve potential, signal noise ratio, human, 2093
- nuclear radiation, pulse amplifier, 2524
- operational amplifier, feedback system, feed back uncoupling, 1351
- photometry, selenium, photo cell, trans impedance circuit, 614
- photosemiconductor, movement detection, 1030
- pulse height analysis, nuclear radiation, linear amplifier, 1037
- pulse height analysis, non linear system, dynamic gain change vs nonlinearity, 1835
- photometry, logarithmic amplifier, 2519
- photosemiconductor, fast response, 3194
- semiconductor, scanning electron microscopy, current amplifier, 230
- selective amplifier, sweep frequency generator, sweep rate, monogram, 2526
- semiconductor, signal noise ratio, measurement from 30 to 300 k, 3291
- semiconductor, low supply voltage, complementary circuit, 3630
- thermocouple, thermometer, graphic and visual recording, 260
- thermometer, graphic and digital read out, 261
- telemetry, electromagnetic radiation, wide band amplifier, input impedance, 2525
- amplitude modulator**, generator, no effect of transient, 3309
 - high linearity, 196
 - hearing, loudness, loudness discrimination, gold fish, amplitude modulated signals, 805
 - telemetry, electromagnetic radiation, linear modulator, 2148
 - telemetry, pulse modulation, demodulation, 2570
- ampulla**, gamma radiation, scintillation counting, source displacement, 3030
- amputation**, hand, prosthesis, 1125
- amygdaloid nucleus**, electroencephalography, olfactory bulb, spike, telemetry, rabbit, 1765
- anaerobic metabolism**, blood sampling, rapid sampling device, 2262
- analgesia**, bone, metastasis, radiotherapy, roentgen apparatus, bone carcinoma, philips rt 255, hard ray therapy, 422
- analog computer**, atropine, averaging, electrocardiography, heart atrium, heart block, 993
 - blood pressure, brain blood flow, computer model, halothane, lung alveolus, drug distribution, in vitro study, 434
 - blood flow, model, muscle blood flow, peripheral vascular resistance, calculation, 1976
 - blood flow, blood volume, computer model, radioisotope, 2726
 - computer model, coughing, expiration, 68
 - computer memory, 238
 - computer, heart output, preejection period measurement device, 868
 - cloaca, computer model, intestine absorption, ureter, bird, 2030
 - computer model, model, nerve cell, nerve cell, 2075
 - computer model, heart muscle oxygen consumption, hemodynamics, computing, 2260
 - computer model, gamma system, movement, muscle spindle, 2431
 - computer model, decompression, diving, model, 2763
 - computer, digital computer, power line failure, 3362
 - differentiation, analysis, 239
 - differentiation, 994
 - divider, multiplier, ad530, 1369
 - digital computer, pattern recognition, 1654
 - densitometry, heart output, thermistor, thermometer, time delay, delay correction, 3185
 - electrocardiography, heart muscle contractility, measuring device, 767
 - education, process control, 2164
 - electrocardiography, heart muscle, isolated heart, function test, automated analysis, 2425
 - electrocardiography, heart arrhythmia, heart fibrillation, monitoring, anomalous beat detection, 3171
 - function generator, half life time, exponential function, 1406

- fet semiconductor, multiplier, broad frequency range, 2163
- fluoroscopy, heart output, monitoring, 3558
- integrator, high precision, 215
- lung, lung compliance, lung model, model, dynamic response prediction by model, 2067
- logarithmic amplifier, adjustment, 3361
- medical education, medical school, physiology, 237
- multiplier, height duration device, 240
- multiplier, review, 677
- multiplier, oscilloscope, philips, 2386
- movement, differentiation, 2594
- negative resistance, generator, stable negative resistance, 3318
- pattern recognition, 2595
- sequence control, 1407
- analog digital converter**, action potential, computer, kymography, 1983
 - computer, data processing, digital computer, pulse height analysis, dec, pdp7, 279
 - computer memory, vidicon, analog buffer, 676
 - cardiovascular system, computer, preprocessor, 871
 - computer memory, recording, digital recording, 2542
 - digital voltmeter, voltmeter, high precision, 2127
 - digital computer, ramp generator, 2175
 - display system, dvm use, 2592
 - electromyography, real time calculation, 1808
 - selection guide, 1376
 - test, 199
 - temperature compensated, 2135
 - voltmeter, integrator, digital, 626
 - voltmeter, ohmmeter, triphasic converter, 1375
- analog model**, ear drum, external ear, model, 3235
 - muscle model, neuromuscular system, 59
 - model, modulation transfer function, mtf measurement, 3231
- analyzer**, aminoacid, computer program, digital computer, drug analysis, 2402
 - gas, gas analysis, microanalyzer, opto acoustical analyzer, characteristics, 1008
 - information, sound, oriental hornet, 3743
 - spectrometry, 1394
 - sound, singing, singin sant, 3601
- anechoic room**, microwave radiation, sound, design, optical method, 299
 - wedge design, national bureau of standards, 1226
- anemia**, computer, education, hematology, differential diagnosis, 1163
- anemometry**, hot wire anemometer, reverse flow sensing, 1027
 - hot wire, linearization, 1433
 - laser, spectrum broadening, 2630
- anesthesia**, anesthetic equipment, halothane, small animals, 843
 - artificial ventilation, laryngoscopy, ventilating laryngoscope, 1152
 - artificial ventilation, harlow ventilator, 1941
 - aorta flow, aorta pressure, artery pulse, blood pressure, electroencephalography, halothane, heart muscle oxygen consumption, heart output, heart rate, 2423
 - arterial oxygen tension, bronchoscopy, bronchoflator, 3462
 - artificial ventilation, halothane, heart rate, monitoring, feedback system, feed back monitoring, apparatus, 3530
 - breathing, bronchoscopy, intermittent positive pressure breathing, 1938
 - computer, digital computer, 484
 - filter, halothane, adsorption capacity, dragerfilter no 633, 2374
 - gas meter, anesthetic gas, narkotest, 1940
 - halothane, apparatus, rabbit, 3142
 - light, automatic light, 2799
 - nitrous oxide, oxygen, gas mixing, quantiflex monitored dial mixer, 3143
 - small animals, 3141
- anesthetic equipment**, anesthesia, halothane, small animals, 843
 - anesthetic system valve, anesthetic gas, excess gas removal, 2372
 - cyclopropane, ether, halothane, methoxyflurane, rubber, drug absorption, 372
- anesthetic gas**, anesthesia, gas meter, narkotest, 1940
 - anesthetic equipment, anesthetic system valve, excess gas removal, 2372
- anesthetic system valve**, anesthetic equipment, anesthetic gas, excess gas removal, 2372
- angiocardiology**, angiography, video recording, trends, 829
- angiocardiology**, cardiogenic shock, extracorporeal circulation, heart infarction, ischemic heart disease, open heart surgery, oxygenation, aorta balloon pump, aortocoronary bypass graft, 4 patients, 3702
- angiocardiology**, echography, holography, 1930
 - heart ventricle volume, left heart ventricle, automated background correction, 1873
- angiography**, aortography, umbilical artery, power injection aortography, 1540
 - aorta wall, mathematic model, radiology, thickness measurement, in vivo, dog, 2277
 - abdomen, radiodiagnosis, motion picture, 1200 cases, siemens puck, 3515
 - catheter, nonsurgical removal method, knotted catheter, 2369
 - computer, videorecording, heart left ventricle volume, 2424

- computer, electrocardiography, heart catheterization, monitoring, hewlett packard, 3188
- carotid arteriography, catheter, selective arteriography, 3757
- digital computer, heart performance, image intensifier, roentgenography, television, biplane roentgenography, 1207
- eye fundus photography, restraining device, bite, 2349
- television camera, modulation transfer function, 3140
- video recording, angiocardiology, trends, 829
- 1 anilinoanthracene 8 sulfonate**, fluorescence, lipid membrane, membrane potential, staining, 587
- ankle**, artery obstruction, leg blood flow, plethysmography, thigh, measurement, 1088
- antagonist muscle**, h reflex, muscle, reciprocal innervation, spinal cord, voluntary movement, reciprocal inhibition, 1549
- anterior horn**, extrapyramidal system, motor cortex, pyramidal tract, spinal cord potential, cat, 2308
- anthracene**, fluorescence, scintigraphy, scintillator, photoeffect, fluorescence quenching, 2220
- anthropometry**, body, motility test, skin, skinfold, boy, 12-19 years, skin fold measurement, 2032
- antibiotic agent**, bacterium, computer, computer program, drug resistance, drug sensitivity, 3771
- antibody**, antigen, antigen antibody reaction, microscopy, precipitation, 281
 - new quantitative immunochemical assay, antibody titer determination with light frequency change, 2502
- anticoagulant agent**, blood clotting, blood clotting time, blood pressure, blood clotting disorder, 3456
- anti D**, erythrocyte, newborn hemolytic disease, 1078
- antidiuresis**, computer model, kidney medulla, sodium, kidney tubule absorption, computer simulation, osmotic gradient without active transport, 1308
- antigen**, antibody, antigen antibody reaction, microscopy, precipitation, 281
- antigen antibody reaction**, antibody, antigen, microscopy, precipitation, 281
- anxiety**, computer program, diagnosis, digital computer, history, 1178
- aorta**, aorta strip, stress strain relation, 70
 - aorta pulse wave, artery pulse, proximal aorta, dog, 358
 - aorta flow, mathematic model, pulsatile flow, shear stress, 1303
 - aorta flow, artery, artery flow, blood pressure, iliac artery, mathematic model, nonlinear system, 1706
 - artery, artery flow, atherogenesis, heart cycle, hemodynamics, arterial location, dog, 2485
 - blood pressure, dog, chicken, pressure transfer function, 125
 - elasticity, mathematic model, nonlinear properties, dog, 543
 - echocardiography, heart output, heart muscle contractility, non invasive measurement, 1874
- aorta balloon pump**, assisted circulation, blood clotting, thrombogenesis, elastomer, pig, dog, in vitro, 3
 - aorta flow, computer model, counterpulsation, heart output, heart ventricle pressure, hemodynamics, 569
 - adrenalin, chlorpromazine, coronary artery flow, heart output, isoprenaline, left heart ventricle, propranolol, dog, 1530
 - assisted circulation, coronary artery flow, heart output, improved system, dog, 2728
 - aorta pressure, assisted circulation, counterpulsation, femoral artery, systolic blood pressure, method comparison, 3067
 - blood clotting, thrombocyte, thrombogenesis, elastomer, 80 cases, 2
 - cardiogenic shock, angiocardiology, extracorporeal circulation, heart infarction, ischemic heart disease, open heart surgery, oxygenation, aortocoronary bypass graft, 4 patients, 3702
- aorta flow**, aorta, mathematic model, pulsatile flow, shear stress, 1303
 - aorta, artery, artery flow, blood pressure, iliac artery, mathematic model, nonlinear system, 1706
 - anesthesia, aorta pressure, artery pulse, blood pressure, electroencephalography, halothane, heart muscle oxygen consumption, heart output, heart rate, 2423
 - artery pulse, mathematic model, origin, 3063
 - aorta pressure, artery pulse, blood pressure, digital computer, electrocardiology, heart output, heart ventricle ejection, dog, 3187
 - aorta pressure, artery, artery pulse, blood vessel, elasticity, dog, influence on wave propagation, 3593
 - blood flow, blood pressure, diagnosis, mathematic model, model, pulsatile flow, aorta stenosis, stenosis strouhal number, 1305
 - blood flow, shear stress, finite element analysis, 2069
 - computer model, counterpulsation, heart output, heart ventricle pressure, hemodynamics, aorta balloon pump, 569
 - coronary artery flow, femoral artery flow, saphenous vein, potential error sources, 3062
 - edema, energy transfer, heart failure, heart work, left heart ventricle, mathematic model, 1094
- aorta incompetence**, chronic disease, computer, diagnosis, heart failure, model, prognosis, symptom, 2810
- aorta pressure**, anesthesia, aorta flow, artery pulse, blood pressure, electroencephalography, halothane, heart muscle oxygen consumption, heart output, heart rate, 2423
 - assisted circulation, counterpulsation, femoral artery, systolic blood pressure, aorta balloon pump, method comparison, 3067
 - aorta flow, artery pulse, blood pressure, digital computer, electrocardiology, heart output, heart ventricle ejection, dog, 3187
 - aorta flow, artery, artery pulse, blood vessel, elasticity, dog, influence on wave propagation, 3593
 - blood pressure, exercise, heart catheterization, heart ventricle pressure, lung artery pressure, telemetry 3652
 - left heart ventricle, mathematic model, left heart ventricle volume, in vivo estimation, 777
- aorta pulse wave**, aorta, artery pulse, proximal aorta, dog, 358
- aorta stenosis**, aorta flow, blood flow, blood pressure, diagnosis, mathematic model, model, pulsatile flow, stenosis, strouhal number, 1305

aorta strip, aorta, stress strain relation, 70
aorta wall, angiography, mathematic model, radiology, thickness measurement, in vivo, dog, 2277
aortocoronary bypass graft, cardiogenic shock, angiocardiology, extracorporeal circulation, heart infarction, ischemic heart disease, open heart surgery, oxygenation, aorta balloon pump, 4 patients, 3702
aortography, angiography, umbilical artery, power injection aortography, 1540
apatite, elasticity, halide, 492
apparatus, humidity, instrument material, 3378
 -power, power supply, 1373
applanation tonometry, evaluation, perkins tonometer, 3508
 -intraocular pressure, 2 hand types, comparison, 2341
 -intraocular pressure, apparatus, 3498
applicator, computer program, dosimetry, radiotherapy, radium, ernst applicator, dec pdp8, 477
aqueous humor, adrenergic system, intraocular pressure, mathematic model, 1123
 -capillary pressure, intraocular pressure, mathematic model, 3444
argon, brain blood flow, carbon dioxide, carbon dioxide tension, kidney blood flow, liver blood flow, mass spectrometry, nitrogen, oxygen, oxygen tension, skin blood flow, 1531
 -helium, krypton, light, ultraviolet radiation, xenon, 2676
argon laser, laser, retina cone, retina rod, differential susceptibility, histology, electron microscopy, monkey, 2774
 -photocoagulation, retina, retina detachment, fluorescein angiography, 100 patients, 1821
arm, arm prosthesis, powered prosthesis, prosthesis, design, 3750
 -computer model, learning, vision, visual adaptation, 1259
 -eye movement, transducer, orthosis, control system, 3131
 -orthosis, 2356
arm prosthesis, amplifier, electromyography, myoelectric control, prosthesis, transducer, 1131
 -arm, powered prosthesis, prosthesis, design, 3750
arterial carbon dioxide tension, arterial oxygen tension, artery, breathing, chemoreceptor, chemoreceptor reflex, hypercapnia, hypoxia, lung ventilation, mathematic model, 778
 -arterial oxygen tension, arterial ph, extracorporeal circulation, oxygenation, plastic membrane, thrombocyte count, coronary artery bypass graft, 3m² lande edwards disposable oxygenator, 1877
 -arterial oxygen tension, brain, capillary, carbon dioxide tension, oxygen tension, tissue, 2635
 -brain blood flow, brain perfusion, intracranial pressure, brain vascular resistance, critical closing pressure, monkey, 1704
arterial oxygen tension, arterial carbon dioxide tension, artery, breathing, chemoreceptor, chemoreceptor reflex, hypercapnia, hypoxia, lung ventilation, mathematic model, 778
 -arterial carbon dioxide tension, arterial ph, extracorporeal circulation, oxygenation, plastic membrane, thrombocyte count, coronary artery bypass graft, 3m² lande edwards disposable oxygenator, 1877
 -arterial carbon dioxide tension, brain, capillary, carbon dioxide tension, oxygen tension, tissue, 2635
 -anesthesia, bronchoscopy, bronchoflator, 3462
 -lung alveolus oxygen tension, lung diffusion, oxygen transport model, alveolar arterial oxygen gradient analysis, 1299
 -monitoring, newborn, oxygen tension electrode, 48 newborn infants, continuous monitoring, 3532
arterial ph, arterial carbon dioxide tension, arterial oxygen tension, extracorporeal circulation, oxygenation, plastic membrane, thrombocyte count, coronary artery bypass graft, 3m² lande edwards disposable oxygenator, 1877
 -blood pressure, depressor nerve, mathematic model, pressoreceptor reflex, vagotomy, 2071
artery, artery flow, artery model, birefringence, tube, flow, reynold number, arterial branching, 119
 -artery flow, artery rete, atherosclerosis, navier stokes equation, 567
 -artery model, computer model, mathematic model, static properties, 570
 -arterial carbon dioxide tension, arterial oxygen tension, breathing, chemoreceptor, chemoreceptor reflex, hypercapnia, hypoxia, lung ventilation, mathematic model, 778
 -aorta, aorta flow, artery flow, blood pressure, iliac artery, mathematic model, nonlinear system, 1706
 -artery bypass, electromagnetic flowmeter, surgery, 1807
 -aged, mathematic model, parameter, man, 2045
 -aorta, artery flow, atherogenesis, heart cycle, hemodynamics, arterial location, dog, 2485
 -artery model, artery wall, carotid artery, femoral artery, iliac artery, model, 5 component model, 2903
 -aorta flow, aorta pressure, artery pulse, blood vessel, elasticity, dog, influence on wave propagation, 3593
 -artery wall, elasticity, model, noradrenalin, smooth muscle, viscosity, 3594
 -artery stenosis, balloon catheter, pelvis artery, corset balloon catheter, dotter type, 3764
 -catheter, lead, tissue reaction, vein, tissue reaction, dog, lead loss, 3707
 -device, percutaneous, 348
 -plethysmography, vasodilatation, measuring method, 3711
 -ultrasonics, lumen visualization, 769
artery bypass, artery, electromagnetic flowmeter, surgery, 1807
artery flow, artery, artery model, birefringence, tube, flow, reynold number, arterial branching, 119
 -artery, artery rete, atherosclerosis, navier stokes equation, 567
 -aorta, aorta flow, artery, blood pressure, iliac artery, mathematic model, nonlinear system, 1706
 -aorta, artery, atherogenesis, heart cycle, hemodynamics, arterial location, dog, 2485
 -blood flow, blood pressure, transcutaneous measurement, 1879
 -capillary flow, retina artery, doppler effect, rabbit, 1707
 -electrocardiography, telemetry, doppler effect, velocity profiles, unexposed, exposed arteries, 3333

- flowmeter, vein flow, doppler effect, 1083
- flow model, 3257
- spinal cord blood flow, reversible current, man, monkey, 775
- artery infusion**, chemotherapy, infusion, continuous arterial infusion devices, ambulant patients, 3625
- artery model**, artery pulse, computer model, digital computer, non linear model, 72
 - artery, artery flow, birefringence, tube, flow, reynold number, arterial branching, 119
 - artery, computer model, mathematic model, static properties, 570
 - artery, artery wall, carotid artery, femoral artery, iliac artery, model, 5 component model, 2903
 - artery stenosis, 3256
- artery obstruction**, ankle, leg blood flow, plethysmography, thigh, measurement, 1088
 - mathematic model, muscle blood flow, 2900
- artery prosthesis**, artery pulse, collateral circulation, monitoring, quantitative recorder, 1885
- artery pulse**, artery model, computer model, digital computer, non linear model, 72
 - aorta, aorta pulse wave, proximal aorta, dog, 358
 - artery pulse pressure, left heart ventricle ejection, left heart ventricle volume, closed chest method, dog, 1535
 - artery prosthesis, collateral circulation, monitoring, quantitative recorder, 1885
 - anesthesia, aorta flow, aorta pressure, blood pressure, electroencephalography, halothane, heart muscle oxygen consumption, heart output, heart rate, 2423
 - aorta flow, mathematic model, origin, 3063
 - aorta flow, aorta pressure, blood pressure, digital computer, electrocardiography, heart output, heart ventricle ejection, dog, 3187
 - aorta flow, aorta pressure, artery, blood vessel, elasticity, dog, influence on wave propagation, 3593
 - blood pressure, recording, 568
 - computer program, phase velocity and transmission computation, 485
 - carotid artery, echocardiography, peripheral vascular resistance, determination by noninvasive method 1884
 - carotid artery, driver, electroencephalography, pneumography, telemetry, workload, electrocardiography 3655
 - electrocardiography, pulse deficient monitoring, automatic detection, 3553
 - finger, plethysmography, long term measurement device, 3466
 - frequency analysis, comment, 3473
 - monitoring, respiration, 2379
- artery pulse pressure**, artery pulse, left heart ventricle ejection, left heart ventricle volume, closed chest method, dog, 1535
- artery rete**, artery, artery flow, atherosclerosis, navier stokes equation, 567
- artery stenosis**, artery model, 3256
 - artery, balloon catheter, pelvis artery, corset balloon catheter, dotter type, 3764
- artery tonus**, blood pressure, monitoring, 774
- artery wall**, artery, artery model, carotid artery, femoral artery, iliac artery, model, 5 component model, 2903
 - artery, elasticity, model, noradrenalin, smooth muscle, viscosity, 3594
- artifact**, artifact reduction, computer, electroencephalography, electrooculography, eye movement, on line method, 2320
 - artifact reduction, cable, electrocardiography, electroencephalography, electromyography, transformation 3674
 - electrocardiography, electroencephalography, interference suppression, telemetry, electric hazard, 1763
- artifact reduction**, artifact, computer, electroencephalography, electrooculography, eye movement, on line method, 2320
 - artifact, cable, electrocardiography, electroencephalography, electromyography, transformation, 3674
 - electroretinography, artifacts elimination, 2188
 - electroencephalography, electromyography, emg artifact reduction, 3106
 - electrocardiography, electrode, movement, electrode, drye, 3463
 - fet semiconductor, movement, free moving animals, 1553
 - oscilloscope, trigger mechanism, 969
- artificial bladder**, silastic, urine, experiment, sheep, 2302
- artificial heart**, assisted circulation, electrocardiography, pump, automatic regulation, heart synchrony, 3470
 - artificial organ, compatibility problem, 3712
 - digital computer, research instrumentation, 2742
 - extracorporeal circulation, portable pump, pulsatile pump, 3713
 - heart output, pump, dog, 1085
 - pathophysiology, calf, 2263
- artificial heart pacemaker**, battery, roentgenology, capacity estimation, 1086
 - bioenergy, fuel cell, magnesium, platinum, power supply, 3459
 - electrode, heart pacing, 5 years experience, glasgow, 359
 - electrocardiography, digital electrocardiograph, 360
 - electrode, heart muscle, heart pacing, transvenous electrode, 369
 - electrode, endocardial electrode, dislocation reduction, 1534
 - electrode, endocardium, epicardium, complication, endocardial electrode vs pericardial electrode, 1538
 - heart muscle, regulated output, 1871
 - magnetic field, 1870
 - magnetic field, 2290

- magnetic field, 3050 mhz interference, electromagnetic interference, 3465
- magnetic field, pulse generator, interference, 3475
- artificial intelligence**, brain, intelligence, memory, model, nerve cell network, association, 574
- artificial kidney**, blood urea nitrogen, hemodialysis, tube, pumpless, large diameter tubing, 2300
 - blood flow, gas exchange, improved gas exchange, pumpless artificial organ, 2304
 - blood flow, erythrocyte, hemodynamics, plasma, thin film blood flow, 3721
 - hemodialysis, comparison of 2 types, 3480
- artificial organ**, artificial heart, compatibility problem, 3712
- artificial skin**, burn, skin, rat, dog, 1640
 - burn, protein, pseudomonas aeruginosa, lactate silver, silver nitrate, skin dressing, rat, 1985
- artificial ventilation**, airway resistance, lung model, lung ventilation, engstrom respirator, lung model, 115
 - anesthesia, laryngoscopy, ventilating laryngoscope, 1152
 - anesthesia, harlow ventilator, 1941
 - airway resistance, airway resistance in lung, 2293
 - airway pressure, cava vein, cava vein blood flow, inferior cava vein, lung ventilation, vein blood flow, variously adjusted engstrom respirator, subdiaphragmatic flow pattern, dog, 2738
 - airway pressure, cava vein, cava vein blood flow, inferior cava vein, lung ventilation, vein blood flow, pressure control, subdiaphragmatic flow pattern, dog, bennett respirator, 2739
 - anesthesia, halothane, heart rate, monitoring, feedback system, feed back monitoring, apparatus, 3530
 - airway resistance, breathing mechanics, computer model, intermittent positive pressure breathing, lung alveolus pressure, flow pattern study, 3717
 - blood flow, erythrocyte, gas embolism, oxygenation, respiration, rheology, sound, gas bubble, 3602
 - cameco ventilator analysis, 3081
 - cape minor ventilator, analysis, 3719
 - engstroem respirator, gas, lung model, lung ventilation, different respirator settings, 2041
 - gas, connector plug, wrong connection, 1891
 - modification to infant device, 1105
 - newborn, technique, instruments, 2746
 - respiration, 62 patients, 3715
 - ventilator, modification, bennett ma 1, 3718
- aspartate**, electroretinography, hydrogen ion, late receptor potential, bullfrog, 1323
- aspiration**, local anesthesia, syringe, nerve type, 1945
- assisted circulation**, aorta pressure, counterpulsation, femoral artery, systolic blood pressure, aorta balloon pump, method comparison, 3067
 - artificial heart, electrocardiography, pump, automatic regulation, heart synchrony, 3470
 - blood clotting, thrombogenesis, aorta balloon pump, elastomer, pig, dog, in vitro, 3
 - coronary artery flow, heart output, aorta balloon pump, improved system, dog, 2728
 - hemodynamics, left heart ventricle, model, 120
 - nuclear energy, plutonium 238, 1532
- atherogenesis**, aorta, artery, artery flow, heart cycle, hemodynamics, arterial location, dog, 2485
- atherosclerosis**, artery, artery flow, artery rete, navier stokes equation, 567
 - blood flow, blood pressure, hypertension, social behavior, telemetry, implantation, mouse, 3335
 - computer, graph, shear stress, pathogenesis, 1975
 - computer, heart valve prosthesis, hemodynamics, graph, 2822
- atmosphere**, aerosol, environmental health, light, light transmission, aerosol analysis, 2243
 - aerosol, environmental health, laser, light, light reflection, aerosol analysis, 2244
 - aerosol, environmental health, light reflection, aerosol analysis, 2245
 - energy transfer, solar radiation, sun, 1471
 - environmental health, fallout, model, radiation hazard, rain, nuclear radiation, poland, 2222
 - infrared radiation, spectrometry, thrombocythemia, 3414
 - light, model, sunlight, sun, solar flux, 1450
 - laser, light absorption, 2655
- atmospheric radioactivity**, accelerator, cell nucleus, nitrogen, retina, vision, 1118
- atropine**, analog computer, averaging, electrocardiography, heart atrium, heart block, 993
 - acetylcholine, nerve cell membrane, 2853
- attitude**, computer, physician, paramedical personnel, 1162
 - computer, health service, mathematic model, therapy, 3153
- audioamplifier**, amplifier, fet semiconductor, 602
 - amplifier, integrated circuit, power amplifier, 2122
- audio frequency generator**, review, 3314
- audiometry**, averaging, electroencephalography, evoked response, evoked response audiometry, optical method, 874
 - bone conduction, cochlea microphonic potential, hearing, rabbit, long term observation, round window electrodes, 2337
 - computer model, digital computer, electroencephalography, filter, evoked response audiometry, matched filter, 938
 - computer program, digital computer, hearing, hearing threshold, snap pdp 8 computer, 3184
 - hearing, 8000-18000 hz, recommended threshold levels, 1284
 - head phone, magnetic earphone, wharfedale, 3280
 - hearing, hearing aid, head phone, coupler vs real ear, earphone, 3433
 - noise, 3499
 - pulse generator, random train generator, 646
 - sound pressure, comment, ansi 1969 standard, 1289

audiovisual system, education, videorecording, long playing disc, 3660
 -videorecording, 2539

auditory discrimination, auditory masking, binaural hearing, directional hearing, hearing, time discrimination, sound detection, 1692
 -behavior, hearing, memory, pattern recognition, auditory display, multidimensional coding, 2883
 -hearing, spectral sensitivity, bees, 2771

auditory masking, acoustic nerve, cochlea nucleus, hearing, signal detection, superior olive, sound perception, central auditory masking, theory, 921
 -auditory discrimination, binaural hearing, directional hearing, hearing, time discrimination, sound detection, 1692
 -acoustic nerve, hearing, loudness, nerve potential, sound, man, postmasking recovery, external meatus electrode, 2058
 -binaural hearing, hearing, contralateral masking, signal detection, 96
 -binaural hearing, hearing, phase discrimination, correlated noise, uncorrelated noise, interaural phase difference, 554
 -binaural hearing, hearing, loudness discrimination, phase discrimination, three listening conditions, 1685
 -binaural hearing, hearing, signal noise ratio, phase discrimination, 2057
 -binaural hearing, hearing, sound lateralization, phase discrimination, 3241
 -electrocardiography, hearing, heart rate, heart sound, noise, 100 hz stimulus, valve closure, 3242
 -hearing, signal frequency, uncorrelated noise, 93
 -hearing, harmonics, monaural phase effects, 920
 -hearing, signal processing, nonlinear system, combination tone, 1286
 -hearing, noise, combination tone, non linear system, combination bands, level, 1680
 -hearing, combination tone, non linear system, even order combination band, 1681
 -hearing, sound, signal noise ratio, critical band width, critical masking interval, 1693
 -hearing, noise, sound, combination tone, nonlinear system, combination, band level, 2055

auditory nerve cell, cochlea, cochlear nerve, frequency discrimination, sound, superior olive, 919

auditory nervous system, binaural hearing, model, long sound localization, model, 2879

auditory stimulation, hippocampus, nerve cell potential, visual stimulation, brain depth stimulation, brain programmed stimulation, cat, 3103

auditory system, mathematic model, model, nerve cell potential, probability model, 1691

auscultation, abdomen, sound, 550

autoanalyzer, blood, computer, 1608
 -computer, 2807

autocorrelation, data processing, information theory, statistics, square periodic process, 37
 -electroretinography, modulated light, retina ganglion cell potential, 808
 -speech, fourier transform, logical convolution, 924
 -speech, 3247

automation, computer, diagnosis, radiology, television, 2418

autopsy, biopsy, data processing, diagnosis, digital computer, nomenclature, pathology, country wide network, dutch palga project, 1196
 -biopsy, data processing, digital computer, epidemiology, nomenclature, pathology, retrieval, 1197
 -biopsy, computer, data processing, histology, nomenclature, pathology, gepact system, country wide network, 1198

averaging, active filter, electromyography, 173
 -audiometry, electroencephalography, evoked response, evoked response audiometry, optical method, 874
 -analog computer, atropine, electrocardiography, heart atrium, heart block, 993
 -digital computer, sampling, interpolation, analog signal reconstruction, 674
 -data processing, spectrometry, statistics, 1437
 -digital computer, frequency analysis, oscilloscope, combination instrument, 3539
 -ear drum, hearing, holography, vibration, cat, time averaged holography, 92
 -evoked cortical response, mathematic model, 151
 -electroanesthesia, electroretinography, evoked response, signal noise ratio, on line circuit, 398
 -evoked response, computations variance, 2593
 -electroencephalography, signal noise ratio, improvement possibilities, 3485
 -ultrasonics, 236
 -voltmeter, display system, digital display, 3297

aviation, blood pressure, heart rate, telemetry, electrocardiography, airplane crew, multichannel system, 2147

avoidance behavior, adductor muscle, conditioning, muscle fiber potential, temperature, locust, 1911
 -model, punishment, 3229

axoplasmic flow, model, peristaltic drive, 751

baby incubator, incubation, developing countries, 3276

bacteriology, computer, data processing, time sharing, review, 2400

bacterium, antibiotic agent, computer, computer program, drug resistance, drug sensitivity, 3771
 -dielectric constant, low frequency dielectric dispersion, 2715
 -population density, sampling, statistics, water system, negative binomial distribution, 2011

badge dosimeter, dosimetry, neutron radiation, thermoluminescence, thermoluminescence dosimeter, 1137

balance, strain gauge transducer, balance suspension, 1010

ballistocardiography, computer, digital computer, 870

balloon, air flow, blood flow, bubble, capillary, lung alveolus, mathematic model, membrane, respiration, switch, nonlinear system, 3612

balloon catheter, artery, artery stenosis, pelvis artery, corset balloon catheter, dotter type, 3764

bandage, biomechanics, orthopedics, plaster, walking, mechanical properties, 2870

band pass filter, active filter, application, 170

- active filter, selective amplifier, design, 171
- active filter, design, 179
- active filter, selective amplifier, low q , 604
- active filter, amplifier, selective amplifier, tunable, variable q , 611
- aluminum, chlorine, magnesium, roentgen radiation, titanium, 1 5 kev, 1059
- computer program, digital filtering, low pass filter, design, 3371
- digital filtering, high speed, 681
- optic filter, ultraviolet radiation, alkali alloy, 1046
- selective amplifier, dielectric resonator, response curve 9-ghz, 2528
- selective amplifier, notch filter, 2935
- surface wave filter, review, 3208

barbituric acid derivative, diagnosis, discriminatory analysis, intoxication, 3163

basal metabolic rate, body, cooling, thermodynamics, conductance, 2874

base excess, acid base balance, blood, computer program, 855

basement membrane, cochlea, computer model, digital computer, model, 922

- cochlea, computer model, hearing, loudness, model, band pass noise stimulus, 1679
- cochlea, cochlea model, mathematic model, model, peterson bogert model, 2042
- cochlea, hearing, mathematic model, model, 2884
- cochlea microphonic potential, model, electric filter, electric network, 3243
- ear drum, hearing, vibration, mossbauer effect, amplitude, phase, monkey, 99

bath, heart muscle, peltier effect, temperature, waterbath, isolated heart muscle, method, 1734

- wheelchair, 413

battery, artificial heart pacemaker, roentgenology, capacity estimation, 1086

- condition measurement, 8
- cell, mercury, comparison, 2925
- development, review, 501
- hearing aid, small button cell, limitation, 165
- nickel cadmium battery, battery monitor, 2508
- power supply, electric motor, converter, 2551
- sodium chloride, properties, 496
- scintillation counting, xenon 133, heart muscle blood flow, battery powered device, 3467
- voltage monitor, 3311

behavior, alpha rhythm, conditioning, consciousness, electroencephalography, biofeedback, mapping method, 1114

- auditory discrimination, hearing, memory, pattern recognition, auditory display, multidimensional coding, 2883
- computer model, sociology, 887
- computer, schizophrenia, complex transitional behavior matrices, 1210
- computer, hierarchical triangular clustering, 1632
- cerebrovascular disease, electroencephalography, frequency analysis, stress, 1726
- computer, computer analysis, osmic rufr, 2825
- computer, psychologic test, automated test, 3786
- computer, monitoring, motor activity, open field behavior, 3791
- digital computer, instrumental conditioning, real time documentation, 1212
- drug, motor activity, analyzing device, mouse, 1899
- electric field, food intake, growth, magnetic field, motor activity, young chicken, 2642
- monitoring, psychiatry, recording, 3531
- telemetry, rocky mountains, 2567

below knee prosthesis, socket, porous socket, 3752

beta detection, beta radiation, gamma detection, gamma radiation, needle, solid state detector, 306

- beta radiation, dosimetry, gamma detection, gamma radiation, semiconductor detector, li si, implantable dosimeter, 316
- beta radiation, semiconductor detector, in vivo/vitro measurement, 1138

beta radiation, accelerator, dosimetry, radiation protection, radiotherapy, roentgen radiation, safety aspects, 156

- beta detection, gamma detection, gamma radiation, needle, solid state detector, 306
- beta detection, dosimetry, gamma detection, gamma radiation, semiconductor detector, li si, implantable dosimeter, 316
- beta detection, semiconductor detector, in vivo/vitro measurement, 1138
- computer, data processing, digital computer, gamma radiation, spectrometry, 736
- dosimetry, radiotherapy, roentgen radiation, conization chamber, comparison, essen umea, villejuif umea, 1144
- semiconductor detector, silicon surface barrier, 1498
- spectrometry, thin film analysis, 1499

beta rhythm, dark adaptation, electoretinography, frequency analysis, 3505

bibliography, computer, retrieval, documentation, literature, effectivity, 480

bicarbonate, chloride, sodium, kidney tubule absorption, kidney proximal convoluted tubule,

- static characteristics, 2751
- biceps brachii muscle**, electromyography, tonic stretch reflex, frequency response characteristics, 417
- bimolecular membrane**, calcium, cell contact inhibition, model, gramicidin a, membrane fusion, 1995
- binaural hearing**, auditory masking, hearing, contralateral masking, signal detection, 96
 - auditory masking, hearing, phase discrimination, correlated noise, uncorrelated noise, interaural phase difference, 554
 - auditory masking, hearing, loudness discrimination, phase discrimination, three listening conditions, 1685
 - auditory discrimination, auditory masking, directional hearing, hearing, time discrimination, sound detection, 1692
 - auditory masking, hearing, signal noise ratio, phase discrimination, 2057
 - auditory nervous system, model, long sound localization, model, 2879
 - auditory masking, hearing, sound lateralization, phase discrimination, 3241
 - brain, dichotic listening, hearing, hemispheric dominance, speech, ear dominance, verbal stimuli, non verbal stimuli, 2877
 - brain, intelligibility, right ear advantage, dichotic hearing, monaural hearing, 3245
 - directional hearing, hearing, sound detection, lateral source, 86
 - directional hearing, hearing, terminology, 3124
 - frequency discrimination, hearing, loudness discrimination, 552
 - hearing, signal detection, phase discrimination, 95
 - hearing, loudness enhancement, contralateral stimulation, 1678
 - hearing, loudness discrimination, 1682
- binocular vision**, depth perception, monocular vision, vision, quantifying perspective effect, 3742
 - evoked cortical response, evoked visual response, retina, retina interaction, dioptic vs dichoptic stimulation, 2321
 - vision, visual acuity, summation, 925
- binomial distribution**, model, multivariate analysis, statistics, susceptibility factor, 2447
- biochemistry**, computer, diagnosis, osteopathy, metabolic disorder, 469
 - computer, teaching, 2391
- biocompatibility**, bone, cardiovascular system, connective tissue, muscle, biomaterial, book, 1219
- bioenergy**, artificial heart pacemaker, fuel cell, magnesium, platinum, power supply, 3459
- bioengineering**, accommodation, blindness, eye, visual aid, 2338
 - automated system, 3151
 - horizon, 1984
 - medical instrumentation, congress, lausanne 1971, 1634
- biofeedback**, alpha rhythm, 572
 - alpha rhythm, behavior, conditioning, consciousness, electroencephalography, mapping method, 1114
 - electromyography, myoelectric control, prosthesis, 2358
- biology**, computer, morphogenesis, 2387
 - data processing, statistics, selective value estimation, 2016
 - diet, mathematic model, linear system, 2177
 - linear system, biological system, linearity test, 3213
 - modulation transfer function, swept frequency and correlation method, 521
 - medicine, motion picture, method, 1337
 - mathematic model, model, enzyme, quantum mechanics, biological indeterminacy, 3571
- biomaterial**, blood vessel, thrombogenesis, production of biocompatible materials, 4
 - bone, cardiovascular system, connective tissue, muscle, biocompatibility, book, 1219
 - dentistry, tensile strength, 2254
 - muscle, poly(vinyl chloride), stainless steel, teflon, toxicity, rabbit muscle, histopathology, 3566
- biomechanics**, body fluid, variational technique, 71
 - blood vessel, elasticity, hemodynamics, model, 1674
 - body movement, computer, electromyography, movement, on line analysis, 3183
 - ergometry, muscle, sport, telemetry, rowing, 1764
 - extensor hallucis longus muscle, tendon, mechanical recovery, 2046
 - fibula, 73
 - joint lubrication, theoretics, 2867
 - knee, mathematic model, biomechanical analysis, 3239
 - orthopedics, plaster, walking, bandage, mechanical properties, 2870
 - running, treadmill, walking, overground versus treadmill running, 16 runners, 3236
 - spine, review, 1668
- biophysics**, bone, electricity, face, morphogenesis, skeleton, skull, 3209
- biopsy**, autopsy, data processing, diagnosis, digital computer, nomenclature, pathology, country wide network, dutch palga project, 1196
 - autopsy, data processing, digital computer, epidemiology, nomenclature, pathology, retrieval, 1197
 - autopsy, computer, data processing, histology, nomenclature, pathology, gepact system, country wide network, 1198
 - bone, diagnosis, digital computer, hyperparathyroidism, osteomalacia, bone disease, osteoporosis, quantitative histology, 3164
 - cancer, cryoprobe, cryosurgery, freon 22, 444
 - computer program, data processing, digital computer, pathology, display system, 8000 cases, 3155
 - esophagus, esophagus mucosa, device for obtaining cellular material, asymptomatic esophagitis, 1598
- birefringence**, artery, artery flow, artery model, tube, flow, reynold number, arterial branching, 119
 - macromolecule, electrooptic shutter, 1314

- nerve fiber potential, dipole model, action potential origin, 2306
- birth**, fetus, telemetry, electrocardiography, 1768
- bite**, angiography, eye fundus photography, restraining device, 2349
- bladder**, micturition, urethra, function test, 383
 - mathematic model, viscoelasticity, 2070
 - ureter, removal device, 1897
- bladder aspiration**, ultrasonics, bladder puncture, suprapubic aspiration, child, 18 cases, 3085
- bladder neck**, fiberoscope, glass fiber flexible cystoscope, 2752
- bladder pressure**, monitoring, neurogenic bladder, telemetry, volume transducer, management method, dog, monitoring bladder distension, 2753
- bladder puncture**, ultrasonics, bladder aspiration, suprapubic aspiration, child, 18 cases, 3085
- bladder sphincter**, neurogenic bladder, valve, silastic spigot valve, 3084
- bladder stone**, lithotripsy, 1896
 - lithotripsy, hydroelectric device, urati, 2301
- bladder wall permeability**, alcohol, osmotic pressure, water, 1898
- bleeding**, blood sampling, heart, heart puncture, restraining device, collapsible device, rabbit, 3457
- blepharoplasty**, clamp, skin, cosmetic agent, 1944
- blindness**, accommodation, bioengineering, eye, visual aid, 2338
 - braille, reading machine, touch, pattern recognition, character recognition, braille output, 404
 - computer memory, computer program, speech, programmer, 448
 - computer memory, reading machine, 1572
 - computer program, digital computer, reading aid, a.r.t.s., 2776
 - drinking, 3744
 - learning, heart tape recorder, high play back speed, 3501
 - reading aid, visual aid, human factors, design, 811
 - reading, reading aid, school, electronic reading apparatus, 31 children, 1115
- blood**, acid base balance, computer program, base excess, 855
 - autoanalyzer, computer, 1608
 - acidosis, blood ph, hemodialysis, hemolysis, ph electrode, electrodeacidification, 3455
 - aluminum, copper, hemolysis, nylon, stainless steel, teflon, polystyrene, implantation, 3698
 - blood viscosity, rheology, reindeer, 759
 - blood flow, electricity, frequency changes, 1079
 - blood volume, dextran, plasma, rheology, sodium chloride, viscosity, in vivo, dog, 1523
 - blood storage, automated disposable continuous centrifugal washing system, frozen stored blood, 1862
 - blood resistance, body temperature, hematocrit, mathematic model, model, dog, 2843
 - bubble, echography, doppler effect, 3704
 - catheter, digital filtering, dye dilution, chemotracer, smearing error, 127
 - colorimetry, light absorption, model, photometry, light scattering, 289
 - colorimetry, light absorption, photometry, light scattering, 345
 - circulation, gas embolism, model, plasma, gas bubble, gas diffusion, chemical reaction, 1301
 - computer, experiment, experiment sampling, children, 2390
 - cholesterol, drug, model, administration control, 3258
 - cell kinetics, electrokinesia, erythrocyte, lymphocyte, thrombocyte, 3670
 - elasticity, viscosity, viscoelasticity, 1522
 - erythrocyte, mathematic model, rheology, shear stress, shear rates, wide range, 3055
 - heart infarction, plasma, rheology, thrombocyte aggregation, viscosity, shear stress, 1863
 - heart output, impedance, rheology, output determination, dog, 2272
 - lung, mathematic model, model, vectorcardiography, electrocardiography, dipole model, inhomogeneity, 354
- blood analysis**, computer, time sharing, pdp8-cdc-3200, 2399
 - leukocyte, classification, 347
- blood bank**, blood transfusion, computer, data processing, 856
- blood carbon dioxide tension**, blood gas, blood oxygen tension, blood ph, hemoglobin, measurement il 213/227 device, test report, 2989
- blood cell**, measurements, 3454
- blood cell count**, erythrocyte count, leukocyte count, correction table for automatic method, 1077
- blood clotting**, assisted circulation, thrombogenesis, aorta balloon pump, elastomer, pig, dog, in vitro, 3
 - anticoagulant agent, blood clotting time, blood pressure, blood clotting disorder, 3456
 - ciliary body, eye, iris, laser, rabbit, histopathology, 1599
 - fibrinolysis, magnetic field, 3452
 - laser, retina detachment, review, 400
 - thrombocyte, thrombogenesis, aorta balloon pump, elastomer, 80 cases, 2
- blood clotting disorder**, anticoagulant agent, blood clotting, blood clotting time, blood pressure, 3456
- blood clotting time**, anticoagulant agent, blood clotting, blood pressure, blood clotting disorder, 3456
- blood flow**, aorta flow, blood pressure, diagnosis, mathematic model, model, pulsatile flow, aorta stenosis, stenosis, strouhal number, 1305
 - artery flow, blood pressure, transcutaneous measurement, 1879
 - analog computer, model, muscle blood flow, peripheral vascular resistance, calculation, 1976
 - aorta flow, shear stress, finite element analysis, 2069
 - artificial kidney, gas exchange, improved gas exchange, pumpless artificial organ, 2304
 - analog computer, blood volume, computer model, radioisotope, 2726
 - atherosclerosis, blood pressure, hypertension, social behavior, telemetry, implantation, mouse, 3335
 - artificial ventilation, erythrocyte, gas embolism, oxygenation, respiration, rheology, sound, gas bubble,

- air flow, balloon, bubble, capillary, lung alveolus, mathematic model, membrane, respiration, switch, nonlinear system, 3612
- artificial kidney, erythrocyte, hemodynamics, plasma, thin film blood flow, 3721
- blood, electricity, frequency changes, 1079
- blood volume, model, radiotracer, external counting, 1525
- blood volume, computer program, dye dilution curve, mathematic model, radiotracer, flow measurement, third mixing chamber, 1628
- blood flowmeter, blood vessel, heart output, thermodilution curve, determination method, 3060
- blood vessel, model, tapered tube, 3611
- blood pressure, emotion, exercise, kidney blood flow, telemetry, implantation, implantable transmitter, 3657
- cardiovascular system, pulsatile flow, integral analysis method, 931
- coulter counter, erythrocyte, aspherical particle rotation, 2487
- densitometry, dye dilution curve, image intensifier, roentgenography, television, flexible window size, diaphragm, 1588
- electromagnetic flowmeter, heart output, percutaneous measurement, baseline, 1541
- electroencephalography, electromagnetic flowmeter, flowmeter, stress, telemetry, neurotransmitter, electrocardiography, implantation, animal, 3321
- electrocardiography, heart rate, rheology, telemetry, thorax, 3656
- heart valve, model, flow pattern, 1306
- heart left ventricle, model, left heart ventricle pressure, heart left ventricle ejection, parameter, 2904
- lung, rheology, subclavian artery, 3461
- model, minimum energy dissipation, 930
- model, plasma, plasma substitute, viscosity, oscillatory flow, 3058
- plethysmography, strain gauge transducer, 356
- thermodilution curve, 763
- transport equation, entry flow equation, 2486
- telemetry, neurotransmitter, 3644
- blood flowmeter**, blood volume, flowmeter, thermistor, quantification, 1882
- blood flow, blood vessel, heart output, thermodilution curve, determination method, 3060
- catheter flowmeter, electromagnetic flowmeter, 3 electrode probe, 2902
- electromagnetic flowmeter, implantation, evaluation and calibration, 1087
- electromagnetic flowmeter, mathematic model, flow meter equation, 3064
- nuclear magnetic resonance, pulsatile flow, system analysis, 932
- blood gas**, analysers, review, 1034
- acid base balance, blood ph, carbon dioxide tension, oxygen tension, ph, correct measurement, 2636
- blood oxygen, blood ph, computer program, electrode, oxyhemoglobin, 2066
- blood carbon dioxide tension, blood oxygen tension, blood ph, hemoglobin, measurement il 213/227 device, test report, 2989
- carbon dioxide tension, gas analysis, oxygen tension, ph, review, 2634
- gas chromatography, rapid measurement, 2992
- blood glucose**, feedback system, non linear system, adaptive control, man, 1080
- blood oxygen**, blood gas, blood ph, computer program, electrode, oxyhemoglobin, 2066
- oximetry, oxygen saturation, reflectometry, skin, 114
- blood oxygen dissociation curve**, carbon dioxide tension, hemoglobin, oxyhemoglobin, ph, continuous recording, 2633
- blood oxygen dissociation curve**, computer, data reduction, oxygen tension, oxyhemoglobin, 2809
- blood oxygen tension**, blood carbon dioxide tension, blood gas, blood ph, hemoglobin, measurement il 213/227 device, test report, 2989
- blood ph**, acid base balance, body temperature, ph, modified singer hastings nomogram, 2197
- acid base balance, blood gas, carbon dioxide tension, oxygen tension, ph, correct measurement, 2636
- acidosis, blood, hemodialysis, hemolysis, ph electrode, electrodeacidification, 3455
- acid base balance, acidosis, alkalosis, computer program, teaching, systematic approach, instruction and diagnosis, 3545
- blood gas, blood oxygen, computer program, electrode, oxyhemoglobin, 2066
- blood pressure, digital computer, monitoring, systolic blood pressure, 2421
- blood carbon dioxide tension, blood gas, blood oxygen tension, hemoglobin, measurement il 213/227 device, test report, 2989
- blood pressure**, aorta, dog, chicken, pressure transfer function, 125
- alternating current, electrostimulation, heart, rat, rabbit, near heart stimulation, 351
- analog computer, brain blood flow, computer model, halothane, lung alveolus, drug distribution, in vitro study, 434
- artery pulse, recording, 568
- artery tonus, monitoring, 774
- aorta flow, blood flow, diagnosis, mathematic model, model, pulsatile flow, aorta stenosis, stenosis, strouhal number, 1305
- aorta, aorta flow, artery, artery flow, iliac artery, mathematic model, nonlinear system, 1706
- acetylcholine, adrenalin, brain blood flow, medulla oblongata, papaverine, propranolol, measurements, 1869
- artery flow, blood flow, transcutaneous measurement, 1879
- arterial ph, depressor nerve, mathematic model, pressoreceptor reflex, vagotomy, 2071
- aviation, heart rate, telemetry, electrocardiography, airplane crew, multichannel system, 2147

- anesthesia, aorta flow, aorta pressure, artery pulse, electroencephalography, halothane, heart muscle oxygen consumption, heart output, heart rate, 2423
- aorta flow, aorta pressure, artery pulse, digital computer, electrocardiography, heart output, heart ventricle ejection, dog, 3187
- atherosclerosis, blood flow, hypertension, social behavior, telemetry, implantation, mouse, 3335
- anticoagulant agent, blood clotting, blood clotting time, blood clotting disorder, 3456
- aorta pressure, exercise, heart catheterization, heart ventricle pressure, lung artery pressure, telemetry 3652
- breathing rate, digital computer, electrocardiography, heart arrhythmia, heart output, monitoring, small computer, 1188
- bradycardia, heart rate, industrial health service, skin temperature, vibration, 694 workers, switzerland 1868
- blood ph, digital computer, monitoring, systolic blood pressure, 2421
- brachial artery, posterior tibial artery, doppler effect, measurements, 2734
- body temperature, electrocardiography, heart disease, phonocardiography, respiration, telemetry, neurotransmitter, multichannel system, 3330
- blood flow, emotion, exercise, kidney blood flow, telemetry, implantation, implantable transmitter, 3657
- catheter, skin, connector plug, implantation, 419
- circadian rhythm, electrocardiography, telemetry, right heart ventricle pressure, implantation, left heart ventricle pressure, implantable, monkey, 1098
- computer, heart catheterization, lung artery pressure, lung vein pressure, lung wedge pressure, children, 2821
- circadian rhythm, telemetry, man, microcatheter technique, 3701
- central nervous system, computer, computer model, diagnosis, heart disease, heart rate, 3775
- diastolic blood pressure, electrocardiography, public health, screening, systolic blood pressure, cuff method, automation, 124
- doppler effect, indirect percutaneous measurement, 336
- dose response, halothane, systems analysis, dog, 350
- diagnosis, heart disease, heart model, heart rate, left heart ventricle, peripheral vascular resistance, heart muscle contractility, control system, 357
- data processing, densitometry, fluoroscopy, heart catheterization, roentgenography, television, display system, patient identification, 2 d representation, 1101
- digital computer, electroencephalography, electrocardiography, 1962
- electrocardiography, continuous recording, unrestricted man, device, 352
- exercise, telemetry, vein pressure, 1761
- electrocardiography, metallurgy, occupational medicine, rheology, telemetry, 1769
- fiberscope, heart infarction, heart output, heart rhythm, oxygen saturation, 765
- heart rate, homeostasis, 128
- heart rate, model, regulatory system, open loop gain, 129
- hypertension, systolic blood pressure, tail, validation of tail cuff method, awake rat, 2289
- heart catheterization, integrated circuit, pressure transducer, 2931
- heart tape recorder, display, analyser device, 3709
- measurement device, indirect measurement, anesthetized mouse, 2274
- monitoring, non invasive measurement method, electropneumatic converter, 3146
- pressure transducer, testing, 2286
- pressure transducer, semiconductor, strain gauge transducer, miniature pressure transducer, 3388
- pressure transducer, calibration, 3627
- telemetry, implantation, unrestrained animal, 1381
- telemetry, simple system, dog, 2561
- blood resistance**, blood, body temperature, hematocrit, mathematic model, model, dog, 2843
- blood rheology**, erythrocyte, model, viscosity, liquid drop model, 1864
- blood sampling**, anaerobic metabolism, rapid sampling device, 2262
 - device, rat, 3699
 - heart performance, fowls, 2258
 - heart, heart puncture, bleeding, restraining device, collapsible device, rabbit, 3457
 - maternal behavior, newborn, nursing, kittens, blood samples, 2261
 - vacuum, tail, vacuum device, rat, 1865
- blood storage**, blood, automated disposable continuous centrifugal washing system, frozen stored blood, 1862
- blood transfusion**, blood bank, computer, data processing, 856
- blood urea nitrogen**, artificial kidney, hemodialysis, tube, pumpless, large diameter tubing, 2300
 - computer, serum, uric acid, relationship, 3769
- blood vessel**, aorta flow, aorta pressure, artery, artery pulse, elasticity,
 - dog, influence on wave propagation, 3593
 - biomechanics, elasticity, hemodynamics, model, 1674
 - blood flow, blood flowmeter, heart output, thermodilution curve, determination method, 3060
 - blood flow, model, tapered tube, 3611
 - capillary, microcirculation, photoresistor, photosemiconductor, diameter measurement, sensor scan technique, 2283
 - cannula, chronic cannulation, dog, 2383
 - elasticity, mathematic model, shear stress, orthotropic oval vessel, 1304
 - model, radiography, roentgen apparatus, 835
 - noradrenalin, smooth muscle, in vitro recording method, 2267

- thrombogenesis, biomaterial, production of biocompatible materials, 4
- blood vessel muscle**, muscle blood flow, peripheral vascular resistance, 123
- blood vessel stenosis**, clamp, 3474
- blood viscosity**, blood, rheology, reindeer, 759
 - capillary, capillary flow, erythrocyte aggregation, hematocrit, 117
- blood volume**, analog computer, blood flow, computer model, radioisotope, 2726
 - blood, dextran, plasma, rheology, sodium chloride, viscosity, in vivo, dog, 1523
 - blood flow, model, radiotracer, external counting, 1525
 - blood flow, computer program, dye dilution curve, mathematic model, radiotracer, flow measurement, third mixing chamber, 1628
 - blood flowmeter, flowmeter, thermistor, quantification, 1882
 - determination device, 343
 - heart output, radiotracer, double tracer method, 766
- body**, anthropometry, motility test, skin, skinfold, boy, 12-19 years, skin fold measurement, 2032
- body**, basal metabolic rate, cooling, thermodynamics, conductance, 2874
 - computer program, digital computer, plutonium, urine, seabeach, 2420
 - electric field, electrocardiography, mathematic model, heart electric field, polynomial function, 2079
 - oscillation, measurement, 332
- body composition**, meat, carcass, carcass composition, 2441
- body fluid**, biomechanics, variational technique, 71
 - carbon dioxide, gas chromatography, 102 determinations, glc, 2991
 - membrane permeability, model, distribution coefficient, 525
- body height**, newborn, neonatometer, 2712
- body movement**, biomechanics, computer, electromyography, movement, on line analysis, 3183
 - head, trunk, walking, translational motion, 3132
 - sleep, recording, results, 36 volunteers, 3488
- body plethysmography**, airway pressure, airway resistance, breathing mechanics, lung compliance, mathematic model, panting, airway flow, 65
 - computer, computer program, gas analysis, lung alveolus, spirometry, 3560
- body posture**, displacement, movement, sleep, 1562
 - electrostimulation, gravity, labyrinth, vestibular system, 60
 - equilibrium, model, man, vertical posture, 2474
 - gravity, statokinesimetry, 1127
 - joint, model, movement, 3589
 - measurement, platform calibrator, 3753
 - oscillation, stabilogram characteristics, 2786
 - stability measurement instrumentation, 3754
- body surface**, metabolism, oxygen consumption, jena stereometric camera, smk 5.5/0808, 3694
- body temperature**, acid base balance, blood ph, ph, modified singer hasting nomogram, 2197
 - blood, blood resistance, hematocrit, mathematic model, model, dog, 2843
 - blood pressure, electrocardiography, heart disease, phonocardiography, respiration, telemetry, neurotransmitter, multichannel system, 3330
 - cooling, water, cooling clothing, efficiency and effectiveness of 11 water cooled suits, 160
 - cooling, protective clothing, cooling clothing, independent regional control, 3048
 - diver, heart rate, respiration, telemetry, transmitter, ultrasonics, multichannel system, 1772
 - exercise, thermometer, thermal adaptation, portable device, 2183
 - electrocardiography, electroencephalography, neurotransmitter, telemetry, implantation, rat, 2562
 - electroencephalography, electromyography, oxygen tension, telemetry, neurotransmitter, multichannel transmitter, 3322
 - electrocardiography, electroencephalography, telemetry, rat, multichannel transmission, 3324
 - heating, radiology, infant, 3696
 - monitoring, newborn, temperature control, 846
 - mathematic model, thermoregulation, review, 2720
 - model, tissue, layered tissue, temperature distribution, 3445
 - radiotracer, telemetry, implantation, radiotransmitter, serum albumin i 125, rabbit, 1755
 - telemetry, pulse modulation, coding, decoding, 220
 - telemetry, large numbers of squirrels, 222
 - telemetry, temperature, 223
 - telemetry, thermometer, animals, 2568
 - telemetry, temperature, implantation, 3 channel system, 2952
 - telemetry, thermometer, implantation, 2953
 - thermometer, digital readout, 3049
 - telemetry, temperature, 3643
- body water**, aldosterone, cardiovascular system, computer model, henle loop, kidney tubule, mathematic model, model, renin, sodium, vasopressin, kidney proximal convoluted tubule, 2756
- body weight**, circadian rhythm, intraocular pressure, tonometry, calibration, rabbit, 3119
- bohr shift**, carbon dioxide, gas exchange, lung capillary, oxygen, haldane effect, 3478
- bolometer**, electric power, power measurement, electromagnetic radiation, millimeter wave, 2212
 - infrared radiation, thermistor, thermography, chalcogenide glass, 3682
 - microwave radiation, power measurement, calibration, 2679
 - radiation counting, temperature, dielectric bolometer, low temperature, 2994
- bcne**, 2829
 - analgesia, metastasis, radiotherapy, roentgen apparatus, bone carcinoma,

- philips rt 255, hard ray therapy, 422
- bone induction, diffusion chamber, 3 good bone inducing systems, new type of diffusion chamber implanted in mice, histology, 1068
- bone density, mathematic model, wave, 2040
- biopsy, diagnosis, digital computer, hyperparathyroidism, osteomalacia, bone disease, osteoporosis, quantitative histology, 3164
- biophysics, electricity, face, morphogenesis, skeleton, skull, 3209
- computer, data processing, fluorine 18, scintiscanning, 307
- calcium, elasticity, femur, growth, tibia, vibration, rat, mechanical vibration, 823
- computer, lung, pancreas, scintigraphy, scintillation camera, 1201
- cardiovascular system, connective tissue, muscle, biomaterial, biocompatibility, book, 1219
- cobalt 60, dosimetry, electron spin resonance, gamma radiation, powder, radiotherapy, thermoluminescence, bovine, deproteinized bone powder, 1589
- ceramic, glass, implantation, microscopy, fixation to bone, rat, 1637
- cement, plastic, total hip prosthesis, durability, wear, friction, 7 types of hip prosthesis, 3083
- cortical bone, elasticity, stress, mechanical testing, 3590
- calcaneus, locomotion, skeleton deformity, 3592
- collagen, piezoelectricity, measurement, 3617
- dentin, enamel, tooth, shear stress, 1671
- elasticity, ultrasonics, bovine, fresh and dried bone, 323
- endoprosthesis, joint, prosthesis, joint prosthesis, 2780
- elasticity, model, viscosity, bovine bone, 3238
- femur, growth, immobilization, tibia, vibration, age, bone piezoelectric potential, 132
- fracture, tibia fracture, polymethyl methacrylate, rabbit, 1214
- fracture, model, wood, characterization of bone substance, bovine canine and anthropoid bone, histology, scanning electronmicroscopy, 1271
- femur, titanium, aluminum oxide, attachment, electron microscopy, dog, 1581
- femur, growth, titanium, aluminum oxide, 2-8 weeks implantation, cylindrical channels, electron microprobe, dog, 1638
- femur, fracture, skeleton deformity, rabbit femora and ulnae, various mechanical parameters, 5 loading rates, 2868
- fracture, cobalt, adhesion reduction, histology, 18 dogs, 3510
- long bone, rheology, bending load, experimental study, 2038
- mathematic model, osteoporosis, geometric feedback, effect on development, effect of treatment on both types of bone, 915
- piezoelectricity, skeleton deformity, bone reconstruction, 3513
- tibia, transducer, implantation, shear stress, monkey, 3237
- bone carcinoma**, analgesia, bone, metastasis, radiotherapy, roentgen apparatus, philips rt 255, hard ray therapy, 422
- bone conduction**, audiometry, cochlea microphonic potential, hearing, rabbit, long term observation, round window electrodes, 2337
- bone density**, bone, mathematic model, wave, 2040
 - computer, computer program, finger, iodine 125, profile scanner, 3181
 - dosimetry, photon, measurement, man, 1434
- bone disease**, biopsy, bone, diagnosis, digital computer, hyperparathyroidism, osteomalacia, osteoporosis, quantitative histology, 3164
- bone induction**, bone, diffusion chamber, 3 good bone inducing systems, new type of diffusion chamber implanted in mice, histology, 1068
- bone piezoelectric potential**, bone, femur, growth, immobilization, tibia, vibration, age, 132
- bone reconstruction**, bone, piezoelectricity, skeleton deformity, 3513
- boron 11**, neutron radiation, oxygen 16, nitrogen 14, (n, α) reaction, 3271
- brachial artery**, blood pressure, posterior tibial artery, doppler effect, measurements, 2734
- bradycardia**, blood pressure, heart rate, industrial health service, skin temperature, vibration, 694 workers, switzerland, 1868
- braille**, blindness, reading machine, touch, pattern recognition, character recognition, braille output, 404
- brain**, aggression, mathematic model, nerve cell, 588
 - amnesia, memory, retrograde amnesia, aspects, 790
 - arterial carbon dioxide tension, arterial oxygen tension, capillary, carbon dioxide tension, oxygen tension, tissue, 2635
 - brain tumor, scintillation camera, scintiscanning, nuclear enterprise camera, case series, 2370
 - binaural hearing, dichotic listening, hearing, hemispheric dominance, speech, ear dominance, verbal stimuli, non verbal stimuli, 2877
 - binaural hearing, intelligibility, right ear advantage, dichotic hearing, monaural hearing, 3245
 - brain fornix, hippocampus, knife, septum pellucidum, transection method, spring loaded carrier, rat, 3490
 - computer model, computer program, endocrine gland, mathematic model, model, nerve cell network, non linear system, 30
 - creativity, learning, model, nerve cell, nerve cell model, creative process simulation, 1656
 - computer, computer program, stereotaxic surgery, localization technique, 3731
 - data processing, information, mathematic model, stimulation, 1111
 - deoxyribonucleic acid, nerve cell, ribonucleic acid, electron microscopy, intact cell preparation, newborn rat, 3093
 - elasticity, mathematic model, viscoelasticity, in vivo, 81

- epilepsy, non periodic oscillation, 1318
- elasticity, mathematic model, viscosity, relaxation response in vivo, 1561
- head, neck, isolation method, anatomy, dog, 2769
- intelligence, memory, model, nerve cell network, artificial intelligence, association, 574
- model, nerve cell model, integrator, nerve cell network, 793
- magnetic field, urine, 17 hydroxycorticosteroid, histology, monkey, 1815
- monitoring, oxygen, oxygen electrode, 2194
- sex, age, skull, calculation measurements, 1909
- brain artery aneurysm**, magnetic field, stereotaxic implantation, thrombus, magnetic controlled thrombosis, 1888
- brain blood flow**, analog computer, blood pressure, computer model, halothane, lung alveolus, drug distribution, in vitro study, 434
 - argon, carbon dioxide, carbon dioxide tension, kidney blood flow, liver blood flow, mass spectrometry, nitrogen, oxygen, oxygen tension, skin blood flow, 1531
 - arterial carbon dioxide tension, brain perfusion, intracranial pressure, brain vascular resistance, critical closing pressure, monkey, 1704
 - acetylcholine, adrenalin, blood pressure, medulla oblongata, papaverine, propranolol, measurements, 1869
 - computer, computer program, pertechtetate tc 99m, 487
 - circulation time, atraumatic method, man, 772
 - scintigraphy, 3460
- brain circulus arteriosus**, computer model, hemodynamics, dynamics, dog, 2068
- brain cortex**, brain depth recording, microelectrode, nerve cell potential, method, intracellular recording, chronic animal, 2325
 - electrocorticography, electroencephalography, mathematic model, nerve cell potential, synchronization analysis, 1906
 - electroencephalography, nerve cell potential, oscillatory processes, rabbit, 2334
 - electroencephalography, epilepsy, motivation, convulsion, 3108
 - nerve cell potential, technique, 2759
- brain cortex layer**, acetylcholine, evoked cortical response, 4 aminobutyric acid, evoked acoustic nerve response, sylvian gyrus, electrogenetical differences, dog, 1550
- brain cortex slice**, electrostimulation, metabolism, mitochondria, nerve cell, oxygen consumption, rat, mouse, 579
- brain depth injection**, brain depth recording, microelectrode, micropipette, glass electrode, brain depth stimulation, electrolyte leakage, 791
 - brain ventricle, cannula, implantation, chronic study, cat, 3101
 - iontophoresis, rat, constant current device, 1107
- brain depth recording**, amplifier, capacitance, microelectrode, stereotaxic implantation, capacitance neutralization, 388
 - brain cortex, microelectrode, nerve cell potential, method, intracellular recording, chronic animal, 2325
 - brain steady potential, electrode, lateral geniculate body, lateral geniculate body nerve cell potential, simple electrode configuration, 3100
 - clamp, electrode implantation, head, restraining device, stereotaxic implantation, rat, 1552
 - computer program, parkinsonism, thalamus, stereotaxic surgery, brain depth stimulation, probe location, pdp 12, 1631
 - electrode implantation, stereotaxic implantation, position calculation, 1556
 - electrode implantation, lateral geniculate body, stereotaxic implantation, thalamus, 1880
 - epilepsy, telemetry, temporal lobe epilepsy, 44 patients, 2760
 - electrode, microelectrode, stereotaxic implantation, design, use in man, 3486
 - microelectrode, micropipette, glass electrode, brain depth stimulation, brain depth injection, electrolyte leakage, 791
 - stereotaxic implantation, skull, connector plug, without screws, rat, 1554
- brain depth stimulation**, brain depth recording, microelectrode, micropipette, glass electrode, brain depth injection, electrolyte leakage, 791
 - brain depth recording, computer program, parkinsonism, thalamus, stereotaxic surgery, probe location, pdp 12, 1631
 - electrode, visual cortex, engineering feasibility study, 391
 - electrode, 1886
 - electrostimulation, head movement, inferior colliculus, effectiveness increase, cat, 3096
 - electrode, thermistor, stereotaxic surgery, 3492
 - electrostimulation, commutator, rodent, 3729
 - fourth brain ventricle, respiration, respiration center, respiration motoneuron, cat, 3725
 - hippocampus, nerve cell potential, visual stimulation, auditory stimulation, brain programmed stimulation, cat, 3103
- brain fornix**, brain, hippocampus, knife, septum pellucidum, transection method, spring loaded carrier, rat 3490
- brain perfusion**, arterial carbon dioxide tension, brain blood flow, intracranial pressure, brain vascular resistance, critical closing pressure, monkey, 1704
 - carbon dioxide, carbon dioxide tension, cerebrospinal fluid, medulla oblongata, model, respiration, respiration control, 780
 - stereotaxic implantation, rabbit, 784
- brain steady potential**, brain depth recording, electrode, lateral geniculate body, lateral geniculate body nerve cell potential, simple electrode configuration, 3100

- electroencephalography, electrooculography, electroretinography, glia cell, nerve cell potential, ph, sodium, 1708
- instrumental conditioning, skin resistance, readiness potential, push button construction, 797
- brain tumor**, brain, scintillation camera, scintiscanning, nuclear enterprise camera, case series, 2370
- brain vascular resistance**, arterial carbon dioxide tension, brain blood flow, brain perfusion, intracranial pressure, critical closing pressure, monkey, 1704
- brain ventricle**, cannula, implantation, brain depth injection, chronic study, cat, 3101
- brain ventricle pressure**, cerebrospinal fluid, intracranial pressure, pressure transducer, disposable system 3107
- branching process**, population dynamics, sibling, age, sibling correlation, 3217
- breast**, breast cancer, thermography, 3519
 - echography, obstetrics, ophthalmology, ultrasonics, improvement, 840
- breast cancer**, breast, thermography, 3519
 - skin, thermodynamics, thermography, heat transfer, 14 carcinomas, intratumor and cutaneous infrared thermography, 1049
- breast lesion**, breast tumor, computer, xeroradiography, classification, 120 lesions, 60 malignant, 60 benign 1614
- breast tumor**, computer, xeroradiography, breast lesion, classification, 120 lesions, 60 malignant, 60 benign 1614
- breathing**, arterial carbon dioxide tension, arterial oxygen tension, artery, chemoreceptor, chemoreceptor reflex, hypercapnia, hypoxia, lung ventilation, mathematic model, 778
 - anesthesia, bronchoscopy, intermittent positive pressure breathing, 1938
 - oxygen consumption, mask, dog, 2373
- breathing mechanics**, airway pressure, airway resistance, body plethysmography, lung compliance, mathematic model, panting, airway flow, 65
 - abdomen, airway resistance, computer model, diaphragm, digital computer, lung compliance, 2823
 - airway resistance, artificial ventilation, computer model, intermittent positive pressure breathing, lung alveolus pressure, flow pattern study, 3717
 - computer, rib, thorax, 872
 - diving, electromyography, sport, telemetry, 3650
 - frequency analysis, lung model, respiratory tract, 3 to 70 cps, 337
 - lung alveolus, lung model, model, 62
 - model, linear system, 913
 - model, 3073
- breathing rate**, 1889
 - ambulance, sport, heart tape recorder, telemetry, recording, electrocardiography, double channel telemetry, 3328
 - blood pressure, digital computer, electrocardiography, heart arrhythmia, heart output, monitoring, small computer, 1188
 - electrocardiography, electroencephalography, electromyography, electrooculography, hybrid computer, sleep, automatic analysis, 3191
 - electromagnetic field, eyelid, movement, radiation hazard, restraining device, telemetry, small animals, 3648
 - heart rate, lung ventilation, skin temperature, traumatic shock, 1537
- breathing work**, lung, pleura, pleura pressure, frictional force, 66
- breeding**, experimental animal, 1849
 - genetics, model, process control, statistics, selection differentials, animal, plant, 2015
- brems radiation**, gamma radiation, scintillation counting, monoenergetic radiation, response, 1495
 - neutron radiation, radiation conversion, 1504
- brightness**, color vision, electroretinography, luminance, 2896
 - electron microscopy, 500kv, high voltage gun, brightness measurement, 2202
 - evoked cortical response, evoked visual response, vision, contrast, volunteers, 3607
 - light adaptation, vision, visual masking, 2892
 - light, vision, visual discrimination, point light source, 3251
 - model, vision, model application, 3606
- bronchitis**, diagnosis, digital computer, 873
 - data processing, data reduction, emphysema, epidemiology, 13,000 cases, 1968
- bronchoscopy**, anesthesia, breathing, intermittent positive pressure breathing, 1938
 - anesthesia, arterial oxygen tension, bronchoflator, 3462
- bronchus**, airway, airway resistance, model, tube, airway flow, branched tube, 113
- bubble**, air flow, balloon, blood flow, capillary, lung alveolus, mathematic model, membrane, respiration, switch, nonlinear system, 3612
 - blood, echography, doppler effect, 3704
- burn**, electrocardiography, electrocoagulation, electrode, electrosurgery, electrode located burns, 2264
 - electrode resistance, pain, resistance measurement, patient discomfort, 3105
 - protein, pseudomonas aeruginosa, lactate silver, silver nitrate, artificial skin, skin dressing, rat, 1985
 - skin, artificial skin, rat, dog, 1640
- 1 butanol**, odor, olfactometry, smelling, threshold, man, olfactometer, 2346

cable, artifact, artifact reduction, electrocardiography, electroencephalography, electromyography, transformation, 3674

- capacitance, balanced pair, 495
- capacitance, shielded pair line, 881
- electric field, electrocorticography, mathematic model, nerve fiber potential, pyramidal nerve cell, polarization effect of ecog, 1723
- integrated circuit, 3207
- low noise, multichannel, 1735
- cadmium**, alternating current, copper, phosphorus, electroluminescence, cds cu powder, 2625
- copper, direct current, phosphorus, electroluminescence, 2673
- cage**, food intake, pharmacology, toxicology, powered diet, mouse, rat, 2240
- metabolism, design, 1854
- calcaneus**, bone, locomotion, skeleton deformity, 3592
- calcification**, roentgen diffraction, tendon, ultrastructure, chicken, x ray diffraction, 414
- calcium**, actin, excitation contraction coupling, laser, muscle fiber, tropomyosin, troponin, quasielastic scattering, 512
- adenosine triphosphate, computer program, data processing, ethylene glycol bis(2 aminoethyl)tetraacetate, muscle relaxation, spectrometry, 1174
- acetylcholine, fetus, heart muscle contractile force, noradrenalin, temperature, heart muscle contraction measuring method, organ culture, mouse, 2731
- bone, elasticity, femur, growth, tibia, vibration, rat, mechanical vibration, 823
- cell contact inhibition, model, bimolecular membrane, gramicidin a, membrane fusion, 1995
- cell membrane permeability, model, potassium, sodium, excitable membrane, molecular mechanism, 2494
- cell membrane, cell membrane conductance, excitable cell, model, sodium, 2907
- cell membrane potential, cell membrane steady potential, potassium, ranvier node, ranvier node membrane, ranvier node membrane potential, 3068
- endoplasmic reticulum, muscle contraction, molecular mechanism, 2039
- electrostimulation, membrane, molecular biology, sodium, 3570
- hodgkin huxley equation, model, potassium, sodium, excitable membrane, physicochemical model, 1329
- hodgkin huxley equation, model, potassium, sodium, excitable membrane, physicochemical model, 1720
- hodgkin huxley equation, nerve cell, nerve conduction, nerve fiber membrane, phosphatidylserine, potassium, serine, sodium, excitable membrane, 2498
- magnesium, metabolism, nerve cell, potassium, ribonucleic acid, sodium, uridine h 3, mollusc, 2718
- mathematic model, model, muscle, muscle isometric contraction, myosin, 2865
- membrane potential, model, excitable
- calculator**, 2971, 2973 142 q2
- nth root, 3364
- reciprocal number, 2176
- calibration**, 1023
- californium 252**, model, radiotherapy, radiotracer, roentgen dose distribution, 2 dim vs. 3 dim model, 1931
- caliper**, skinfold, ponderase caliper, 2365
- caloric vestibular test**, hearing, magnetic field, microwave radiation, semicircular canal, vestibular system 3126
- calorimetry**, alternating current, measurement, 2189
- cell culture, microcalorimetry, 3695
- digital computer, model, thermocouple, transient heat, 258
- dosimetry, roentgen radiation, combination calorimeter, 730
- dosimetry, roentgen radiation, depth dose calorimeter, flash roentgen radiation, 837
- electric power, power measurement, frequency range, 2106
- heater head, error, 2617
- laser, power measurement, pulsed laser, 2650
- laser, power measurement, pulsed laser, 2651
- metabolism, oxygen consumption, automatic compensating gradient lags, 1852
- magnetic field, temperat34 .u 2624
- titrimetry, microcalorimeter, 3386
- camera**, color photography, optic filter, spatial frequency filter, 2155
- eye fundus, design, 984
- fiberscopy, image processing, pinhole camera, 3021
- gastroscopy, photography, upper stomach part, 1518
- lens, photography, modulation transfer function, 30 objectives, 2573
- monochromator, spectrometry, ultraviolet radiation, 2578
- photography, visual system, panoramic photography, 652
- shutter, dynamic characteristic, 651
- television camera, combined system, 2587
- camera tube**, computer, spectrometry, 1457
- image intensifier, television camera, 1397
- image intensifier, sensitivity, charge coupled imager, 2579
- image intensifier, roentgen radiation, television, vidicon, modulation transfer function, plumbicon, 2796
- television camera, array, 1395
- television, vidicon, 2151
- television, plumbicon, 2434
- campimetry**, perimetry, new model, 405
- visual field, 399
- cancer**, biopsy, cryoprobe, cryosurgery, freon 22, 444

- cancer radiotherapy, computer program, digital computer, medical record, 241
- computer program, data processing, medical record, radiotherapy, 863
- cancer radiotherapy, computer program, treatment evaluation, 1189
- cancer radiotherapy, computer program, treatment evaluation, 1190
- computer, medical record, metastasis, retrieval, 1192
- computer program, death, life, therapy, nonparametric k sample test, 1603
- cryoprobe, cryosurgery, head and neck cancer, inexpensive cryoprobe, 2380
- dermatology, laser, safety, book, 1824
- cancer cell**, cell, conductivity, ehrlich ascites tumor, cell conductivity, 704
- chromosome, computer program, leukocyte, leukocyte count, 853
- cancer radiotherapy**, cancer, computer program, digital computer, medical record, 241
- cancer, computer program, treatment evaluation, 1189
- cancer, computer program, treatment evaluation, 1190
- cannula**, blood vessel, chronic cannulation, dog, 2383
- brain ventricle, implantation, brain depth injection, chronic study, cat, 3101
- coronary artery, multi purpose cannula, dog, 2732
- hypophysis, hypothalamus, infusion, micropipette, neuroendocrinology, neurophysiology, rat, 386
- kidney tubule, kidney proximal convoluted tubule, insertion method, necterus, 1560
- saliva gland, saliva gland duct, chronic cannulation, sheep, 341
- thoracic duct, 3700
- capacitance**, 1513
- amplifier, brain recording, microelectrode, stereotaxic implantation, capacitance neutralization, 388
- cable, balanced pair, 495
- capacitance transducer, displacement transducer, 707
- cable, shielded pair line, 881
- strain gauge transducer, high stability, 701
- capacitance meter**, cell membrane, membrane, 1436
- capacitance transducer**, capacitance, displacement transducer, 707
- displacement transducer, multiplier, tooth, tooth movement, linearization, 3628
- capacitor**, frequency performance, temperature performance, 3206
- capillary**, arterial carbon dioxide tension, arterial oxygen tension, brain, carbon dioxide tension, oxygen tension, tissue, 2635
- air flow, balloon, blood flow, bubble, lung alveolus, mathematic model, membrane, respiration, switch, nonlinear system, 3612
- blood viscosity, capillary flow, erythrocyte aggregation, hematocrit, 117
- blood vessel, microcirculation, photoresistor, photosemiconductor, diameter measurement, sensor scan technique, 2283
- capillary flow, mathematic model, review, 1310
- elasticity, serum, viscosity, measurement, 1672
- kidney cortex, kidney plasma flow, mathematic model, kidney tubule absorption, kidney proximal convoluted tubule, peritubular control, rat, dog, 3090
- capillary flow**, 1705
- artery flow, retina artery, doppler effect, rabbit, 1707
- blood viscosity, capillary, erythrocyte aggregation, hematocrit, 117
- capillary, mathematic model, review, 1310
- capillary pressure**, aqueous humor, intraocular pressure, mathematic model, 3444
- carbon**, oxygen, pion radiation, radiobiology, radiotherapy, water, radiation absorption, pi meson, capture site, 950
- painting, heater, graphite, colloidal graphite, 2627
- carbon dioxide**, argon, brain blood flow, carbon dioxide tension, kidney blood flow, liver blood flow, mass spectrometry, nitrogen, oxygen, oxygen tension, skin blood flow, 1531
- brain perfusion, carbon dioxide tension, cerebrospinal fluid, medulla oblongata, model, respiration, respiration control, 780
- body fluid, gas chromatography, 102 determinations, glc, 2991
- bohr shift, gas exchange, lung capillary, oxygen, haldane effect, 3478
- carbon dioxide laser, laser, power measurement, 1444
- computer program, glucose, glycolysis, lactic acid, metabolism, pyruvic acid, warburg apparatus, 3158
- model, vibration, 3687
- carbon dioxide laser**, carbon dioxide, laser, power measurement, 1444
- laser, manometer, interferometry, 2628
- laser, light, power measurement, simple method, 2645
- laser, siemens lg 1062, 3398
- carbon dioxide tension**, argon, brain blood flow, carbon dioxide, kidney blood flow, liver blood flow, mass spectrometry, nitrogen, oxygen, oxygen tension, skin blood flow, 1531
- arterial carbon dioxide tension, arterial oxygen tension, brain, capillary, oxygen tension, tissue, 2635
- acid base balance, blood gas, blood ph, oxygen tension, ph, correct measurement, 2636
- brain perfusion, carbon dioxide, cerebrospinal fluid, medulla oblongata, model, respiration, respiration control, 780
- blood gas, gas analysis, oxygen tension, ph, review, 2634
- carbon 14, expiration, scintillator, 3080
- hemoglobin, blood oxygen dissociation curve, oxyhemoglobin, ph, continuous recording, 2633
- heart infarction, heart muscle, oxygen consumption, oxygen tension, heart muscle blood flow,

- recording device in focal areas, dog, 3070
- carbon 14**, carbon dioxide tension, expiration, scintillator, 3080
 - radioisotope, tritium, uridine h 3, liquid chromatography, 3042
- carcass**, body composition, meat, carcass composition, 2441
- carcinogenesis**, cybernetics, fertilization, genetics, information, model, regeneration, 3226
- cardiogenic shock**, angiocardiology, extracorporeal circulation, heart infarction, ischemic heart disease, open heart surgery, oxygenation, aorta balloon pump, aortocoronary bypass graft, 4 patients, 3702
- cardiotachometer**, electrocardiography, exercise, heart rate, 1084
- cardiovascular system**, analog digital converter, computer, preprocessor, 871
 - aldosterone, body water, computer model, henle loop, kidney tubule, mathematic model, model, renin, sodium, vasopressin, kidney proximal convoluted tubule, 2756
 - blood flow, pulsatile flow, integral analysis method, 931
 - bone, connective tissue, muscle, biomaterial, biocompatibility, book, 1219
 - computer model, model, vein, 122
 - deconditioning, hospitalization, tilting, servo controlled tilt board, 363
 - data processing, tape, heart tape recorder, 2273
 - digital computer, mathematic model, parameter estimation, 2901
 - fetus, model, 121
 - review of non invasive techniques, 364
- cardioversion**, automatic system, 2285
 - heart defibrillation, energy, indicated and delivered energy, 776
 - heart defibrillation, efficacy, truncated exponential discharge, dog, 2741
- car driving**, mathematic model, 1135
 - mathematic model, alertness, 3228
- caries**, ph, ph electrode, tooth plaque, 826
- beta carotene**, photochemistry, vitamin a aldehyde, polyene, flash photolysis, triplet states, 2719
- carotid arteriography**, angiography, catheter, selective arteriography, 3757
- carotid artery**, artery pulse, echocardiography, peripheral vascular resistance, determination by noninvasive method, 1884
 - artery, artery model, artery wall, femoral artery, iliac artery, model, 5 component model, 2903
 - artery pulse, driver, electroencephalography, pneumography, telemetry, workload, electrocardiography, 3655
- carotid artery pulse**, electrocardiography, exercise, systole, heart left ventricle ejection time, atraumatic method, 3472
- carotid artery revascularization**, cooling, fish, maintenance system, flat fish, 2503
- carotid sinus pressoreceptor**, mathematic model, model, 154
- cartilage**, fracture, impact, joint, cartilage degeneration, rabbit, impact loading, 3591
 - joint, mathematic model, shear stress, 82
 - joint lubrication, 1582
- cartilage degeneration**, cartilage, fracture, impact, joint, rabbit, impact loading, 3591
- cassette holder**, dentistry, maxilla sinus, radiodiagnosis, roentgen apparatus, temporomandibular joint, film cassette, 3138
- cassette recorder**, heart tape recorder, response, 3302
 - sound generator, stimulator, tape recording, tone, touch tone equipment, 1902
 - tape recording, standardization, 632
 - tape, heart tape recorder, frequency response measurement, 2943
- cast**, airway, airway pressure, model, airway flow, flow physics, 112
- cataract**, cataract extraction, intraocular pressure, needle, 1946
- cataract extraction**, cataract, intraocular pressure, needle, 1946
- catgut**, polylactic acid, suturing, polyglycolic acid, scanning electron microscopy, rat, 2830
- catheter**, angiography, nonsurgical removal method, knotted catheter, 2369
 - artery, lead, tissue reaction, vein, tissue reaction, dog, lead loss, 3707
 - angiography, carotid arteriography, selective arteriography, 3757
 - blood, digital filtering, dye dilution, chemotracer, smearing error, 127
 - blood pressure, skin, connector plug, implantation, 419
 - cava vein, parenteral feeding, intravenous feeding, method and technique, minipig, 2251
 - catheter pressure transducer, heart muscle oxygen consumption, pressure recording, micromanometer, in vivo comparison, 2288
 - heart output, thermistor, thermodilution curve, determination, detection site, 2730
 - lung wedge pressure, swan ganz catheter, 40 cases, 1892
 - oxygen electrode, oxygen tension, oxygen tension electrode, method, catheter mounted oxygen electrode, 2196
 - pressure transducer, ultraminiature 5 fr catheter, 1737
 - parenteral feeding, silastic, technique, indications, 3448
- catheter electrode**, electrode, epicardium, heart muscle potential, dog, 1867
- catheter flowmeter**, blood flowmeter, electromagnetic flowmeter, 3 electrode probe, 2902
- catheter pressure transducer**, catheter, heart muscle oxygen consumption, pressure recording, micromanometer, in vivo comparison, 2288
- cathode**, electron microscopy, microscopy, molybdenum, tungsten, flashing effect, 953
 - semiconductor, vidicon, silicon cold cathode, 3663
- cathode ray oscilloscope**, action potential, differential amplifier, oscilloscope, 3673
 - computer memory, 100 megabit, 3295
 - computer memory, digital computer, siemens gdr 101-2700, 3564

- digital computer, oscilloscope, storage oscilloscope, tektronix, 1788
- display system, penetration color tube, 1990
- electron microscopy, stabilized voltage supply, 625
- electron microscopy, television camera, image processing, image parameters, 988
- oscilloscope, film camera, 1396
- recording, thermal printing, 2828
- storage oscilloscope, transfer storage, 1744
- silicone, 2940
- cava vein**, airway pressure, artificial ventilation, cava vein blood flow, inferior cava vein, lung ventilation vein blood flow, variously adjusted engstrom respirator, subdiaphragmatic flow pattern, dog, 2738
- airway pressure, artificial ventilation, cava vein blood flow, inferior cava vein, lung ventilation, vein blood flow, pressure control, subdiaphragmatic flow pattern, dog, bennett respirator, 2739
- catheter, parenteral feeding, intravenous feeding, method and technique, minipig, 2251
- cava vein blood flow**, airway pressure, artificial ventilation, cava vein, inferior cava vein, lung ventilation vein blood flow, variously adjusted engstrom respirator, subdiaphragmatic flow pattern, dog, 2738
- airway pressure, artificial ventilation, cava vein, inferior cava vein, lung ventilation, vein blood flow, pressure control, subdiaphragmatic flow pattern, dog, bennett respirator, 2739
- cecum**, colon, fiberoscope, proctosigmoidoscopy, sigmoid, plastic tube, straightening tube, 2249
- cell**, batu
 - comparison, 2925
- chloroplast, erythrocyte, mitochondria, light scattering, particle volume, 105
- cancer cell, conductivity, ehrlich ascites tumor, cell conductivity, 704
- cell differentiation, model, sociology, relational force, 1268
- cell nucleus, uterine cervix smear, cell nucleus detection, vickers cytology apparatus, 1544
- cell population, mathematic model, cell mass distribution model, 1647
- cell kinetics, computer model, mitosis, rotating fourier ring, 1652
- computer program, microscopy, taxonomic intracellular analytic system, ticas, 3179
- deoxyribonucleic acid, microspectrophotometry, design, 2927
- digital computer, microscopy, allergy, phase contrast microscopy, trypanosoma, position indicator, pattern recognition, 3770
- electrostatic charge, cell interaction, coulomb force, 583
- gas, mathematic model, model, tissue, gas diffusion, inert gas, heterogeneous tissue, 1298
- growth, mitochondria, electron microscopy, chinese hamster cell, 2004
- hyperpolarization, nerve cell potential, electric mediated inhibition, goldfish, 2078
- interferometer, dry mass determination of living cells, 951
- laser, silicon dioxide, quartz hardening, 291
- laplace law, diffusion kinetics, 1254
- laplace law, cell division, model, percentage labeled mitoses, 2393
- model, cellular interaction, 26
- metabolism, model, 1267
- model, oxygen transport model, new model, 1300
- model, molecular biology, statistics, 2460
- metabolism, model, enzyme, 3443
- microelectrode, micromanipulator, nerve cell, compact acceleration device, 3494
- nucleotide, plasmalemma, protein, ribonuclease, yeast, cooperative conformational membrane rearrangement, yeast, 2462
- radiation hazard, tissue, ultrasonics, hazard threshold, 742
- scanning electron microscopy, sputter ion etching, hydrogen, helium, argon and oxygen, mammalian and avian cells, 3345
- cell conductivity**, cancer cell, cell, conductivity, ehrlich ascites tumor, 704
- cell contact inhibition**, calcium, model, bimolecular membrane, gramicidin a, membrane fusion, 1995
- cell culture**, cell division, growth, mathematic model, dispersionless growth, 537
- collision analysis in vitro, cine micrography, arrangement of cell collision, technique, 1731
- calorimetry, microcalorimetry, 3695
- growth, hela cell, hydrocortisone, monitoring, 3279
- microelectrode, heart muscle cell potential, miniature array, 1096
- microscopy, nerve cell, nerve cell potential, perfusion chamber, 2309
- cell cycle**, mitosis, 1649
- cell differentiation**, cell, model, sociology, relational force, 1268
- cell division**, cell culture, growth, mathematic model, dispersionless growth, 537
- cell division**, cell, laplace law, model, percentage labeled mitoses, 2393
- cell kinetics, computer model, digital computer, laplace law, mathematic model, radioisotope, transit time, laplace transfer method, 3580
- cell extract**, aminoacid, computer program, fortran, hydrolysate, automatic calculation, 2806
- cell function**, membrane potential, phospholipid membrane, membrane resistance, 1312
- cell interaction**, cell, electrostatic charge, coulomb force, 583
- cell kinetics**, blood, electrokinesia, erythrocyte, lymphocyte, thrombocyte, 3670
- cell, computer model, mitosis, rotating fourier ring, 1652
- computer model, digital computer, laplace law, mathematic model, cell division, radioisotope, transit time, laplace transfer method, 3580
- cell membrane**, ameba, ehrlich ascites tumor cell, ultrasonics, microstreaming, mouse, 325
- cell membrane permeability, epithelial cell, skin, flow chamber, step experiment, frog, 1667
- cell membrane permeability, computer model, diffusion coefficient, convection, 3.2 a pore, 2001
- cell membrane permeability, diffusion exchange, membrane bound sphere, 2003

- cell membrane permeability, mathematic model, ion, onsager model, 2031
- cell membrane impedance, cell membrane potential, mathematic model, nerve fiber, nerve fiber potential, dielectric constant, fixed charge, 2091
- cell membrane potential, cell membrane steady potential, mathematic model, ion, fixed charge, potential profile, concentration profile, 2092
- calcium, cell membrane conductance, excitable cell, model, sodium, 2907
- excitable cell, model, excitable membrane, basic equation, 2909
- factor analysis, membrane, light scattering, roentgen scattering, 533
- hydrogen ion, proton, stomach mucosa, conductance, 2863
- imidazole, muscle fiber membrane, phosphoric acid, potassium, sodium, ionogenic groups, 1853
- kedem katchalsky equation, 902
- membrane, capacitance meter, 1436
- oscillation, skin, compartment model, feedback system, multi compartment model, unidirectional transport, 909
- phase detection, measurement, 2491
- peptide, polypeptide, synthetic membrane, bimolecular conformation, 3045
- cell membrane capacitance**, cell membrane potential, cell membrane resistance, ehrlich ascites tumor, potassium, 1712
- cell membrane conductance**, calcium, cell membrane, excitable cell, model, sodium, 2907
- lipid membrane, membrane potential, 1311
- cell membrane conductivity**, cell membrane resistance, cell potential, electric field, mathematic model, extracellular stimulation, 3622
- erythrocyte membrane, space near membrane, ion mobility, 3582
- phospholipid membrane, kinetic adhesion, 2852
- cell membrane impedance**, cell membrane, cell membrane potential, mathematic model, nerve fiber, nerve fiber potential, dielectric constant, fixed charge, 2091
- cell membrane permeability**, cell membrane potential, erythrocyte, dipole model, electro tension and torque, 135
- chloride, muscle fiber membrane, muscle fiber membrane permeability, potassium, sodium, crab, 1651
- cell membrane, epithelial cell, skin, flow chamber, step experiment, frog, 1667
- cell membrane, computer model, diffusion coefficient, convection, 3.2 a pore, 2001
- cell membrane, diffusion exchange, membrane bound sphere, 2003
- cell membrane, mathematic model, ion, onsager model, 2031
- calcium, model, potassium, sodium, excitable membrane, molecular mechanism, 2494
- electrolyte, general equation, 519
- electrolyte, electron, muscle spindle, temperature, elovich equation, temperature dependence, 892
- gravitational stress, mathematic model, water, compartment model, calculation, 3579
- mathematic model, membrane, transport equation, 2 component system, 1648
- muscle fiber membrane, ontogeny, potassium, sodium, soleus muscle, age, rat, 1665
- mathematic model, 2023
- mathematic model, transport coefficient, 3233
- nerve cell membrane, potassium, large square lattice cooperation, 2018
- water, automatic optic recording, toad, 2848
- cell membrane potential**, acetylcholine, adrenalin, skin, strophanthin, 2,4 dinitrophenol, 1717
- cell membrane permeability, erythrocyte, dipole model, electro tension and torque, 135
- chlorella, zeta potential, 577
- cell membrane capacitance, cell membrane resistance, ehrlich ascites tumor, potassium, 1712
- cell membrane, cell membrane impedance, mathematic model, nerve fiber, nerve fiber potential, dielectric constant, fixed charge, 2091
- cell membrane, cell membrane steady potential, mathematic model, ion, fixed charge, potential profile concentration profile, 2092
- cell membrane short circuit current, epithelial cell, automatic measurement device, 2094
- calcium, cell membrane steady potential, potassium, ranvier node, ranvier node membrane, ranvier node membrane potential, 3068
- chloride, potassium, sodium, tissue culture, cell strain 1, 3259
- digital computer, on line computer, spike, pattern recognition, extracellular recording, 134
- electrode, microelectrode, voltage clamp, 140
- lipid membrane, photostimulation, 141
- mathematic model, finite difference solution, 1330
- mathematic model, integral equation solution, 1331
- cell membrane resistance**, cell membrane capacitance, cell membrane potential, ehrlich ascites tumor, potassium, 1712
- cell membrane conductivity, cell potential, electric field, mathematic model, extracellular stimulation, 3622
- cell membrane short circuit current**, cell membrane potential, epithelial cell, automatic measurement device, 2094
- cell membrane steady potential**, cell membrane, cell membrane potential, mathematic model, ion, fixed charge, potential profile, concentration profile, 2092
- calcium, cell membrane potential, potassium, ranvier node, ranvier node membrane, ranvier node membrane potential, 3068
- mathematic model, model, ion, 2088
- ph, potassium, ranvier node, ranvier node membrane potential, 2095
- cell model**, computer program, cyst, development, digital computer, modely fuc. celia program, 1242

cell motion, erythrocyte, holography, model, 2009

cell nucleus, accelerator, atmospheric radioactivity, nitrogen, retina, vision, 1118

- cell, uterine cervix smear, cell nucleus detection, vickers cytology apparatus, 1544

cell population, cell, mathematic model, cell mass distribution model, 1647

- cell volume, mathematic model, synchronized cell population, 2002

cell potential, cytology, direct current amplifier, microelectrode, compensation method, 2518

- cell membrane conductivity, cell membrane resistance, electric field, mathematic model, extracellular stimulation, 3622
- magnetic field, setcreasea purpurea, 2910

cell preservation, cooling, under -90 degrees C, 2241

cell strain I, cell membrane potential, chloride, potassium, sodium, tissue culture, 3259

cellulose, dialysis, dialysis membrane, membrane, 3205

cell volume, cell population, mathematic model, synchronized cell population, 2002

cement, bone, plastic, total hip prosthesis, durability, wear, friction, 7 types of hip prosthesis, 3083

- cyanoacrylate, dentistry, glue, polymer, adhesive agent, 3565

central nervous system, alpha rhythm, electroencephalography, epilepsy, excitation, inhibition, mathematic model, nerve cell network, 940

- blood pressure, computer, computer model, diagnosis, heart disease, heart rate, 3775
- endocrine gland, feedback system, nonperiodic oscillation, 1650
- mathematic model, nerve cell, 947

centrifuge, cerebrospinal fluid, 957

- elasticity, molecule, polyatomic molecule, centrifugal stretching, 3373
- gravitational stress, seat reaction direction, monkey, 2367

cephalometry, computer, computer program, dentistry, digital computer, orthodontics, review, computer use, 1199

- echography, fetus, scanning, 741

ceramic, bone, glass, implantation, microscopy, fixation to bone, rat, 1637

- polyalanine, glass, epitaxy, 498
- soft tissue, toxicity, corrosion, glass, implantation, subcutis, biocompatibility, histology, electron microscopy, rat, 1639

ceramics, transducer, batio3, characteristics, 3281

cerebellum, cerebellum cortex, model, nervous system, spatial filter, 142

- cuneate nucleus, joint, movement, nerve cell potential, cuneocerebellar tract, 3129
- deafferentation, leg, locomotion, nerve cell, nerve cell potential, spinal cord, spinocerebellar tract, cat, 2757
- locomotion, nerve cell, nerve cell potential, fastigial nucleus, interpositus nucleus, cat, 2307
- locomotion, purkinje cell, walking, cerebellum anterior lobe, cat, 3738

cerebellum anterior lobe, cerebellum, locomotion, purkinje cell, walking, cat, 3738

cerebellum cortex, cerebellum, model, nervous system, spatial filter, 142

- computer model, purkinje cell, purkinje cell potential, background activity model, 2331

cerebrospinal fluid, brain perfusion, carbon dioxide, carbon dioxide tension, medulla oblongata, model, respiration, respiration control, 780

- brain ventricle pressure, intracranial pressure, pressure transducer, disposable system, 3107
- cerebrospinal fluid flow, mathematic model, 118
- centrifuge, 957

cerebrospinal fluid flow, cerebrospinal fluid, mathematic model, 118

cerebrovascular disease, behavior, electroencephalography, frequency analysis, stress, 1726

cesium 137, cobalt 60, computer program, gamma radiation, mercury 203, disc source, self absorption, 738

- cobalt 60, radiotherapy, radium, vagina, disposable afterloading colpostat, 1935
- cobalt 57, cobalt 60, gamma radiation, manganese 54, mercury 203, sodium 22, tantalum 182, semiconductor detector, americum 241, yttrium 88, calibration, 2693
- gamma radiation, 3033
- sodium 22, scintillator, organic scintillator, bias setting, 317

chair, disabled, 412

- restraining device, monkey, 2717

chamber, hypercapnia, dog, 1517

- illumination, interference suppression, experiment, 1426
- microcirculation, long term observation, chamber technique, different types of chamber, 2109
- oxygen consumption, design, small animal, 1074
- proportional counter, hybrid chamber, 737

character, computer, electroencephalography, strip chart recorder, character generation, 389

- display system, character generator, greek character, cyrillic character, 2534
- digital computer, retrieval system, display system, chinese character, 3555
- learning, pattern recognition, character reader, learning classifier, 2131

character reader, character, learning, pattern recognition, learning classifier, 2131

chemical kinetics, allosteric enzyme, glycolysis, oscillation, phosphofructokinase, enzyme, glycolytic oscillation, 888

- chemotracer, reaction rate constant, 889
- computer program, model, statistics, data fitting, fortran, 1607
- computer model, model, enzyme, quantum model, oscillation, 3227
- data processing, luminescence, spectrophotometry, 3017
- enzyme kinetics, stochastic model, linear system, open linear system, 1230
- electron microscopy, 2716

- gas flow measurement, interferometer, ultrasonic speed, 1026
- gas chromatography, chemotracer, 2616
- gas, solved reactants, 3377
- injection, 2180
- laser, light absorption, radioisotope, spectrometry, 2674
- model, enzyme, threshold mechanism, 905
- model, diffusion, gel, concentration, concentration equation, 1239
- mathematic model, stochastic model, chemical reaction, bio mathematical model, 2005
- recording, wheatstone bridge, electric conductance, 3568
- stochastic model, monte carlo method, 907
- chemical reaction**, blood, circulation, gas embolism, model, plasma, gas bubble, gas diffusion, 1301
 - mathematic model, stochastic model, chemical kinetics, bio mathematical model, 2005
- chemodectoma**, computer, lung blood flow, lung ventilation, xenon 133, lung function, 1208
- chemoluminescence**, erythrocyte membrane, iron, ultraviolet radiation, lipid peroxide, 2847
- chemoreceptor**, arterial carbon dioxide tension, arterial oxygen tension, artery, breathing,
 - chemoreceptor reflex, hypercapnia, hypoxia, lung ventilation, mathematic model, 778
- chemoreceptor reflex**, arterial carbon dioxide tension, arterial oxygen tension, artery, breathing,
 - chemoreceptor, hypercapnia, hypoxia, lung ventilation, mathematic model, 778
- chemotherapy**, artery infusion, infusion, continuous arterial infusion devices, ambulant patients, 3625
- chemotracer**, alpha radiatimM, environmental health, fluorescence, roentgen radiation, 3044
 - blood, catheter, digital filtering, dye dilution, smearing error, 127
 - chemical kinetics, reaction rate constant, 889
 - circulation, circulation model, dye dilution curve, model, radiotracer, compartment model, 1302
 - data processing, radiotracer, data fitting, curve fitting, exponentials, 1265
 - gas chromatography, chemical kinetics, 2616
 - metabolism, stochastic model, compartment model, 904
- chi square test**, computer program, iodine 131, phosphorus 32, statistics, nuclear radiation, 2923
- chloride**, bicarbonate, sodium, kidney tubule absorption, kidney proximal convoluted tubule,
 - static characteristics, 2751
- cell membrane permeability, muscle fiber membrane, muscle fiber membrane permeability, potassium, sodium, crab, 1651
- cell membrane potential, potassium, sodium, tissue culture, cell strain I, 3259
- model, muscle, nuclear magnetic resonance, proton, sodium, water, toad, 2785
- chlorine**, aluminum, band pass filter, magnesium, roentgen radiation, titanium, 1 5 kev, 1059
- chlorine 36**, counter, radioisotope, differential counter, 2699
- chloroplast**, cell, erythrocyte, mitochondria, light scattering, particle volume, 105
- chlorpromazine**, adrenalin, coronary artery flow, heart output, isoprenaline, left heart ventricle,
 - propranolol, aorta balloon pump, dog, 1530
- cholecystokinin**, computer, diagnosis, pancreas, pancreas carcinoma, pancreas disease, pancreatitis,
 - pancreozymin, secretin, 84 patients, 29 normals, 2398
- cholesterol**, blood, drug, model, administration control, 3258
 - mathematic model, metabolism, 3692
- chorda tendinea**, elasticity, heart muscle, heart papillary muscle, heart valve, viscosity,
 - mechanical properties, man, 1275
- choroid**, light, mathematic model, retina, temperature, 549
 - retina, temperature, sun, solar observation, 1124
- chromatic adaptation**, color vision, critical flicker fusion, light adaptation, monochromatic light, vision, 3249
- chromatography**, aminoacid, drug, steroid hormone, thin layer chromatography, vitamin, 3380
 - computer program, electrophoresis, thin layer gel filtration, resolving overlapped and skewed peaks, 3541
- chromium 51**, erythrocyte cr 51, erythrocyte fe 59, forearm, iron 59, radiation counting, 1060
- chromosome**, cancer cell, computer program, leukocyte, leukocyte count, 853
 - computer, karyotype, mitosis, karyotyping, measurement normalization, automatic karyotyping, 1625
 - computer, cytogenetics, genetics, karyotype, karyotyping, usefulness, 1969
 - computer, karyotype, mass screening, karyotyping, 1970
 - computer, computer program, karyotype, karyotyping, bayesian and logical approach, 1971
 - computer, karyotype, karyotyping, 1972
 - computer, computer program, digital computer, microscopy, computer analysis, focus, 2819
 - computer, algorithm, geometry analysis, 3556
 - dosimetry, lymphocyte, roentgen radiation, chromosomal aberration, 1081
 - fetus monitoring, safety, ultrasonics, 438
 - lymphocyte, lymphocyte culture, ultrasonics, 2232
 - mathematic model, age, 885
- chronic disease**, computer, diagnosis, heart failure, model, prognosis, symptom, aorta incompetence, 2810
 - mathematic model, recurrent forecasts, model, 1644
- chronic obstructive lung disease**, computer, heart output, impedance plethysmography, plethysmography,
 - spirometry, lung function, 3077
- chronometer**, tape recording, time marker, instrumentation recorder, 192
- cigarette smoking**, inhalation, smoking, device, rat, 1542
 - machine for animal experiments, 3438
- ciliary body**, blood clotting, eye, iris, laser, rabbit, histopathology, 1599
- cineangiocardigraphy**, heart muscle, heart muscle contraction, regional heart muscle dynamics, 3468

cineangiography, computer, left heart ventricle, television, 1977
 -left heart ventricle, automatic boundary detection, 1585

cineradiography, data processing, digital computer, laryngography, lip, lip movement, speech, image processing, 1140
 -jumping, locomotion, motor activity, primates, 2790

cingulate gyrus, electrocoagulation, frontal cortex, neurosis, case report, 2316

circadian rhythm, blood pressure, electrocardiography, telemetry, right heart ventricle pressure, implantation, left heart ventricle pressure, implantable, monkey, 1098
 -body weight, intraocular pressure, tonometry, calibration, rabbit, 3119
 -blood pressure, telemetry, man, microcatheter technique, 3701
 -cornea, microscopy, cornea thickness, vickers image splitting eyepiece, 3118
 -delta rhythm, electroencephalography, rem sleep, sleep, damped rhythm, 2086
 -eye, locomotion, motor activity, photoreceptor, crayfish, 409
 -enzyme, basis, 523
 -mathematic model, model, feedback system, 2025
 -mathematic model, model, feedback system, petal rhythm, kalanchoe, 2459
 -oscillation, zeitgeber, self sustained oscillation, synchronization, 2000
 -photoperiod, day length duplication, 561

circulation, blood, gas embolism, model, plasma, gas bubble, gas diffusion, chemical reaction, 1301
 -circulation model, dye dilution curve, model, radiotracer, compartment model, chemotracer, 1302
 -infrared radiation, photoelectric plethysmography, photoresistor, plethysmography, semiconductor, skin, skin blood flow, signal noise ratio, 3043

circulation model, circulation, dye dilution curve, model, radiotracer, compartment model, chemotracer, 1302

circulation time, brain blood flow, atraumatic method, man, 772

citric acid, erythema, eugenol, mouth mucosa, phosphoric acid, methacrylic acid methyl acid, 1856

city, model, city design, 1997

clamp, brain depth recording, electrode implantation, head, restraining device, stereotaxic implantation, rat, 1552
 -blepharoplasty, skin, cosmetic agent, 1944
 -blood vessel stenosis, 3474
 -homeostasis, surgery, vasoconstriction, 3763
 -intravenous infusion, even flow, 440

clark electrode, oxygen tension electrode, precision, accuracy, 2193

classification, cluster, computer program, taxonomy, object classification, nonparametric classification, 1414
 -epidemiology, model, public health service, statistics, 910

clearance, α aminohippuric acid, radioisotope, iodohippurate sodium i 131, edetic acid cr 51, 3516

clinical chemistry, computer, information processing, laboratory, eclipse, 3773
 -data processing, digital computer, clinical laboratory, information processing, 3157
 -dispenser, dilution, pipetting, automatic device, 3440
 -digital computer, 3543

clinical laboratory, computer, computer program, 1610
 -clinical chemistry, data processing, digital computer, information processing, 3157
 -data processing, digital computer, electrocardiography, hospital, medical record, 3160

cloaca, analog computer, computer model, intestine absorption, ureter, urine, bird, 2030

clock, diode, display system, bcd decoder, 2435
 -voltage frequency converter, 979

clothing, electrocardiography, electromyography, environmental health, ergometry, heart rate, telemetry, thermogenesis, work, 3327

cluster, computer program, taxonomy, classification, object classification, nonparametric classification, 1414

coal mining, dust, industrial health service, monitoring, mass monitor, 1890

coating, fluoride, gel, fluoride sodium, fluorophosphate sodium, coating vs gel, 3567
 -microelectrode, platinum, glass, tungsten, 275
 -wet deposition, internal coating, 335

cobalt, bone, fracture, adhesion reduction, histology, 18 dogs, 3510

cobalt therapy, computer program, radiotherapy, isodose display, 476
 -cobalt 60, gamma radiation, radiotherapy, rotational source, tosheba rcr 120 c1, 1584
 -radiotherapy, strip filter, 1934

cobalt 57, cesium 137, cobalt 60, gamma radiation, manganese 54, mercury 203, sodium 22, tantalum 182, semiconductor detector, americum 241, yttrium 88, calibration, 2693

cobalt 60, bone, dosimetry, electron spin resonance, gamma radiation, powder, radiotherapy, thermoluminescence, bovine, deproteinized bone powder, 1589
 -computer, depth dose, dosimetry, calibration chart, 478
 -cesium 137, computer program, gamma radiation, mercury 203, disc source, self absorption, 738
 -computer, dosimetry, process control, radiotherapy, electronic calculator, 842
 -cesium 137, radiotherapy, radium, vagina, disposable afterloading colpostat, 1935
 -cesium 137, cobalt 57, gamma radiation, manganese 54, mercury 203, sodium 22, tantalum 182, semiconductor detector, americum 241, yttrium 88, calibration, 2693
 -dosimetry, gamma radiation, radiotherapy, farmer secondary standard range extension, 831
 -dosimetry, filter, gamma radiation, lead, radiotherapy, uterine cervix, uterine cervix carcinoma, cancer 3514
 -gamma radiation, photomultiplier, scintigraphy, leading edge, 313

- gamma radiation, roentgen radiation, spectrometry, scintillator, calibration scheme, 728
- gamma radiation, pulse height analysis, time amplitude converter, non linear pulse height, 732
- germanium, semiconductor detector, large volume detector, 1494
- gamma radiation, radiotherapy, cobalt therapy, rotational source, tosheba rcr 120 c1, 1584
- cochlea**, basement membrane, computer model, digital computer, model, 922
 - basement membrane, computer model, hearing, loudness, model, band pass noise stimulus, 1679
 - basement membrane, cochlea model, mathematic model, model, peterson bogert model, 2042
 - basement membrane, hearing, mathematic model, model, 2884
 - computer, computer model, digital computer, hearing, model, cochlear partition, hybrid computer model 91
 - cochlear nerve, frequency discrimination, sound, superior olive, auditory nerve cell, 919
 - cochlea microphonic potential, evoked cortical response, hearing, evoked acoustic nerve response, chinchilla, 1677
 - cochlea microphonic potential, cochlear nerve, latent period, nerve potential, hair cell, guinea pig, 1921
 - hearing, mechanoreceptor, potassium, hair cell, lateral line system, fish, mechanosensitivity, 555
 - hearing, high level sound, rodents, distortion components, 1283
- cochlea deafness**, deafness, hearing aid, speech intelligibility, graded instantaneous compression, 812
- cochlea microphonic potential**, audiometry, bone conduction, hearing, rabbit, long term observation, round window electrodes, 2337
 - basement membrane, model, electric filter, electric network, 3243
 - corti organ, endolymph, middle ear, hair cell, endolymphatic pressure, review, 801
 - cochlea, evoked cortical response, hearing, evoked acoustic nerve response, chinchilla, 1677
 - cochlea, cochlear nerve, latent period, nerve potential, hair cell, guinea pig, 1921
 - electrode, surface electrode measurement, 3117
 - hearing, guinea pig, two tone interaction, 2882
 - mathematic model, hair cell, guinea pig, 1725
- cochlea model**, basement membrane, cochlea, mathematic model, model, peterson bogert model, 2042
- cochlea nucleus**, acoustic nerve, auditory masking, hearing, signal detection, superior olive, sound perception, central auditory masking, theory, 921
- cochlear nerve**, cochlea, frequency discrimination, sound, superior olive, auditory nerve cell, 919
 - cochlea, cochlea microphonic potential, latent period, nerve potential, hair cell, guinea pig, 1921
 - nerve fiber potential, nerve potential, cat, click stimuli, 1910
- coding**, data processing, non linear cipher, 2605
- coil**, laparoscopy, trocar, 847
 - magnetic field, homogeneous field, 1036
- coincidence**, time amplitude converter, circuit characteristics, 734
- coincidence counting**, anticoincidence gate, 1359
 - counter, particle counter, error correction, 1514
 - gamma radiation, timer, semiconductor detector, ge hi, 2219
 - recording, delayed coincidence curve, 2541
- cold**, perception, skin, skin temperature, thermoreceptor, stimulation level and duration, 3136
 - thermoluminescence, spectral recording, 2446
- cold stress**, computer model, hypothalamus, preoptic area, skin temperature, thermoreceptor, environment temperature, 2 temperature input models, 2875
- collagen**, absorption, formaldehyde, sponge, resorption, 3197
 - bone, piezoelectricity, measurement, 3617
 - connective tissue, mathematic model, metabolism, proline h 3, rats, mathematic modelling, 894
 - connective tissue, mathematic model, metabolism, proline h 3, rats, mathematic modelling, 3223
 - laser, light, second harmonic generation, 1296
 - mathematic model, 80
 - relaxation, tendon, proton magnetic resonance, nuclear magnetic resonance spectrometry, cattle, 3597
- collateral circulation**, artery prosthesis, artery pulse, monitoring, quantitative recorder, 1885
- collimator**, gamma radiation, scintigraphy, scintillation camera, technetium 99m, modulation transfer function, 3344
 - scintigraphy, strontium 87m, multislit collimator, 830
 - scintigraphy, multiple collimator system, 2697
- collodion**, membrane, membrane resistance, 150
- colloid**, computer model, suspension, spherule, equal sphere, unequal sphere, 1229
 - light, light absorption, model, refraction index, suspension, light reflection, spherical particle, 3013
- colloid osmotic pressure**, plasma, serum colloid osmotic pressure, osmometer, improvement, 346
- colon**, cecum, fiberoscope, proctosigmoidoscopy, sigmoid, plastic tube, straightening tube, 2249
 - endoscopy, intestine, peroral endoscopy, 1520
- colon tenia**, fet semiconductor, ph electrode, glass electrode, sodium electrode, ion sensitive fet, guinea pig, 1509
- color**, computer, digital computer, scintigraphy, 429
 - color discrimination, visual discrimination, methods and instruments, fish, 783
 - colorimetry, light reflection, 2667
 - cie chromaticity coordinates computation, 2889
- color blindness**, color vision, computer model, spectral sensitivity, fick's shifting hypothesis, 2340
 - color vision, retina cone, spectral sensitivity, spectrometry, vision, visual pigment, 2895
- color discrimination**, color, visual discrimination, methods and instruments, fish, 783
- color film**, sensometer, photographic film, soviet instruments, 1446
- colorimetry**, automatic analysis, 164

- blood, light absorption, model, photometry, light scattering, 289
- blood, light absorption, photometry, light scattering, 345
- color matching, computer program, 2646
- color, light reflection, 2667
- color vision, light adaptation, spectral sensitivity, visual pigment, visual system, 2898
- color vision, model, photometry, retina fovea, spectral sensitivity, heterochromatic additivity, 3252
- color vision, visual discrimination, nonlinear system, color discrimination, chromaticity diagram, 3253
- illumination, photometry, spectrometry, metamerism, 3609
- liver disease, spectrometry, urobilin, spekol, 3481
- photometry, 1466
- photometry, pulfrich photometer, 2385
- color matching**, colorimetry, computer program, 2646
- color photography**, camera, optic filter, spatial frequency filter, 2155
- color television**, television camera, compact color camera, 665
 - television camera, sony trinicon, 1402
 - television camera, one camera tube, 2150
 - vidicon, television camera, bivicon, 1223
- color vision**, brightness, electroretinography, luminance, 2896
 - cornea, retina cone, spectral sensitivity, vision, monkey, 817
 - color blindness, computer model, spectral sensitivity, fick's shifting hypothesis, 2340
 - color blindness, retina cone, spectral sensitivity, spectrometry, vision, visual pigment, 2895
 - colorimetry, light adaptation, spectral sensitivity, visual pigment, visual system, 2898
 - chromatic adaptation, critical flicker fusion, light adaptation, monochromatic light, vision, 3249
 - colorimetry, model, photometry, retina fovea, spectral sensitivity, heterochromatic additivity, 3252
 - colorimetry, visual discrimination, nonlinear system, color discrimination, chromaticity diagram, 3253
 - illumination, vision test, illumination box, 1915
 - light absorption, photoreceptor, retina, retina cone, visual pigment, anomalous dispersion, 565
 - light, illuminant d65, 3250
 - model, zone fluctuation model, 102
 - model, line element derivation in zone, fluctuation model, 103
 - mathematic model, visual field, complex system, 810
 - occupational health, man machine interaction, red, green, 2351
 - photometry, vision, heterochromatic photometry, methods, comparison, 2773
- combination tone**, auditory masking, hearing, noise, non linear system, combination bands, level, 1680
 - auditory masking, hearing, non linear system, even order combination band, 1681
 - auditory masking, hearing, noise, sound, nonlinear system, combination, band level, 2055
- commutator**, electrostimulation, brain depth stimulation, rodent, 3729
- comparator**, operational amplifier, hysteresis, variable trip point, 3292
- compartment model**, cell membrane, oscillation, skin, feedback system,
 - multi compartment model, unidirectional transport, 909
- circulation, circulation model, dye dilution curve, model, radiotracer, chemotracer, 1302
- cell membrane permeability, gravitational stress, mathematic model, water, calculation, 3579
- digital computer, liver, model, plasma, thyroxine, distribution model, man, 886
- dye dilution curve, heart output, fast area estimation, 1092
- dye dilution curve, heart output, 2278
- dendrite, model, nerve cell, nerve cell potential, postsynaptic potential, 2918
- dentate gyrus, hippocampus, nerve cell membrane potential, nerve cell potential, nerve conduction, entorhinal cortex, computation, 3266
- erythrocyte, erythrocyte membrane, extracellular space, sodium, sodium 22, unstirred layer evidence, 2444
- model, 28
- metabolism, stochastic model, chemotracer, 904
- metabolism, oscillation, feedback system, transport equation, multi compartment model, 908
- membrane permeability, osmotic pressure, 2838
- stochastic model, steady state analysis, 49
- computer**, 10 input multiplexer, 252
 - analog digital converter, data processing, digital computer, pulse height analysis, dec, pdp7, 279
 - anesthesia, digital computer, 484
 - analog computer, heart output, preejection period measurement device, 868
 - analog digital converter, cardiovascular system, preprocessor, 871
 - attitude, physician, paramedical personnel, 1162
 - abdominal pain, diagnosis, diagnosis, 472 patients, 1184
 - autopsy, biopsy, data processing, histology, nomenclature, pathology, gepact system, country wide network, 1198
 - autoanalyzer, blood, 1608
 - acid base balance, computer program, electrolyte balance, 1612
 - atherosclerosis, graph, shear stress, pathogenesis, 1975
 - action potential, analog digital converter, kymography, 1983
 - artifact, artifact reduction, electroencephalography, electrooculography, eye movement, on line method, 2320
 - automation, diagnosis, radiology, television, 2418
 - angiography, videorecording, heart left ventricle volume, 2424
 - air pollution, fluorescence, spectrometry, semiconductor detector, minicomputer, radiotracer, 2695

- autoanalyzer, 2807
- atherosclerosis, heart valve prosthesis, hemodynamics, graph, 2822
- attitude, health service, mathematic model, therapy, 3153
- acid base balance, intensive care, 3159
- angiography, electrocardiography, heart catheterization, monitoring, hewlett packard, 3188
- analog computer, digital computer, power line failure, 3362
- administration, medical record, outpatients, 3554
- antibiotic agent, bacterium, computer program, drug resistance, drug sensitivity, 3771
- bone, data processing, fluorine 18, scintiscanning, 307
- biochemistry, diagnosis, osteopathy, metabolic disorder, 469
- bibliography, retrieval, documentation, literature, effectivity, 480
- brain blood flow, computer program, pertechnetate tc 99m, 487
- beta radiation, data processing, digital computer, gamma radiation, spectrometry, 736
- blood bank, blood transfusion, data processing, 856
- ballistocardiography, digital computer, 870
- breathing mechanics, rib, thorax, 872
- bone, lung, pancreas, scintigraphy, scintillation camera, 1201
- behavior, schizophrenia, complex transitional behavior matrices, 1210
- breast tumor, xeroradiography, breast lesion, classification, 120 lesions, 60 malignant, 60 benign, 1614
- behavior, hierarchical triangular clustering, 1632
- biology, morphogenesis, 2387
- blood, experiment, experiment sampling, children, 2390
- biochemistry, teaching, 2391
- bacteriology, data processing, time sharing, review, 2400
- blood oxygen dissociation curve, data reduction, oxygen tension, oxyhemoglobin, 2809
- blood pressure, heart catheterization, lung artery pressure, lung vein pressure, lung wedge pressure, children, 2821
- behavior, computer analysis, osmic fruf, 2825
- bone density, computer program, finger, iodine 125, profile scanner, 3181
- biomechanics, body movement, electromyography, movement, on line analysis, 3183
- body plethysmography, computer program, gas analysis, lung alveolus, spirometry, 3560
- brain, computer program, stereotaxic surgery, localization technique, 3731
- blood urea nitrogen, serum, uric acid, relationship, 3769
- blood pressure, central nervous system, computer model, diagnosis, heart disease, heart rate, 3775
- behavior, psychologic test, automated test, 3786
- behavior, monitoring, motor activity, open field behavior, 3791
- computer model, digital computer, flagella, model, viscosity, sliding filament theory, 58
- cochlea, computer model, digital computer, hearing, model, cochlear partition, hybrid computer model, 91
- curve reader, digital read out, 234
- computer memory, scintillation camera, maximum frame rate analysis, 235
- character, electroencephalography, strip chart recorder, character generation, 389
- color, digital computer, scintigraphy, 429
- computer program, diagnosis, newborn, exchange blood transfusion, 465
- cobalt 60, depth dose, dosimetry, calibration chart, 478
- computer program, social behavior, complex transitional matrices, 488
- computer program, psychometry, 489
- computer model, electric field, electroencephalography, skull, intercranial field, inhomogeneity, 792
- cobalt 60, dosimetry, process control, radiotherapy, electronic calculator, 842
- computer program, scintigraphy, program packing, 866
- creatine phosphokinase, data processing, laboratory, lactate dehydrogenase, serum, serum aspartate aminotransferase, system analysis, enzyme, 1172
- computer program, digital computer, patient, hospital management, 1175
- cancer, medical record, metastasis, retrieval, 1192
- cephalometry, computer program, dentistry, digital computer, orthodontics, review, computer use, 1199
- chemodectoma, lung blood flow, lung ventilation, xenon 133, lung function, 1208
- computer model, electron microscopy, magnetic field, design, 1386
- computer model, mathematic model, model, 1604
- computer program, man machine interaction, book, 1605
- computer program, clinical laboratory, 1610
- chromosome, karyotype, mitosis, karyotyping, measurement normalization, automatic karyotyping, 1625
- coronary artery flow, scintigraphy, scintiscanning, dog, 1627
- computer program, diagnosis, pathology, 1960
- chromosome, cytogenetics, genetics, karyotype, karyotyping, usefulness, 1969
- chromosome, karyotype, mass screening, karyotyping, 1970
- chromosome, computer program, karyotype, karyotyping, bayesian and logical approach, 1971
- chromosome, karyotype, karyotyping, 1972
- computer program, marriage, 1973
- cineangiography, left heart ventricle, television, 1977
- cholecystokinin, diagnosis, pancreas, pancreas carcinoma, pancreas disease, pancreatitis, pancreozymin, secretin, 84 patients, 29 normals, 2398
- computer program, data processing, electrooculography, 2406
- computer program, digitoxin, digoxin, glucoside, digitalis intoxication, dose kidney function relation,

- drug dose, 2417
- computer program, fortran, pathology, information system, fortran, 2422
- computer model, computer program, metabolism, metasim simulator, 2463
- chronic disease, diagnosis, heart failure, model, prognosis, symptom, aorta incompetence, 2810
- chromosome, computer program, digital computer, microscopy, computer analysis, focus, 2819
- computer memory, digital computer, electroencephalography, frequency analysis, display system, pdp 8 i, 3 dim representation, 2824
- computer program, language, time reduction, markov algorithm, 2968
- chronic obstructive lung disease, heart output, impedance plethysmography, plethysmography, spirometry, lung function, 3077
- computer program, electrocardiography, vectorcardiography, 3166
- computer program, diagnosis, electrocardiography, multigroup diagnosis, 3173
- computer program, coronary care unit, heart infarction, ischemic heart disease, display, man machine interaction, midas program, 3186
- computer program, nuclear medicine, radioisotope, 3542
- chromosome, algorithym, geometry analysis, 3556
- clinical chemistry, information processing, laboratory, eclipse, 3773
- data processing, spectrometry, nuclear radiation, on line, 280
- diagnosis, electrocardiography, validity, 349
- data processing, ergometry, file handling, 447
- data processing, gas chromatography, retrieval, 457
- diagnosis, lung cancer, roentgenology, thorax radiography, case series, diagnosis, 466
- diagnosis, man vs computer logic, 468
- digital computer, liver, scintigraphy, television, 483
- digital computer, face, man machine interaction, face identification, 509
- digital computer, process control, introduction, 679
- data processing, digital computer, accident, storage protection, 684
- diagnosis, statistics, bahadur distribution, 858
- data processing, medical record, thyroid disease, numerical and logical method to thyroid medical records, 864
- dow formule, fick method, heart output, dye, 27 cases, hamilton method, 869
- digital computer, pulse counter, pdp 8/e, 996
- digital computer, rental plan, 997
- digital computer, pdp 15, 1003
- digital computer, economy, electrocardiography, monitoring, 1082
- digital computer, paper tape, scintigraphy, scintillation camera, picker 500, 1150
- data processing, health program, health service, data bank, 1159
- diagnosis, nuclear medicine, scintiscanning, 1161
- data processing, laboratory, 1169
- data processing, laboratory, system analysis, 1170
- data processing, laboratory, system analysis, 1171
- data processing, laboratory, system analysis, 1173
- diagnosis, 1177
- diagnosis, digital computer, pattern recognition, 1179
- diagnosis, thyroid disease, 1181
- data processing, diagnosis, 1182
- diagnosis, mathematic model, 1183
- data processing, electrocardiography, phonocardiography, 1186
- data processing, obstetrics, review, 1200
- digital computer, echography, 1204
- digital computer, terminal, 1417
- dosimetry, gamma radiation, radiotherapy, sievert integral, recursive formula, 1606
- dosimetry, gamma radiation, roentgen dose distribution, roentgen radiation, 1616
- digital computer, process control, sequential system, control lability, 1796
- data processing, scintillation camera, scintillation, 1951
- drug, hospital, laboratory, drug analysis, 1957
- data processing, drug toxicity, toxicology, retrieval, 1958
- data processing, digital computer, on line computer, scintillation counting, nuclear radiation, pdp 15, ibm 360/65, two computer system, 2166
- data processing, general practice, morbidity, simplified data input, 2396
- diagnosis, 2404
- digital computer, sociology, social aspect, 2596
- digital computer, hardware, software review, 2615
- dose response, pharmacology, smooth muscle, on line computer, 2826
- data processing, telemetry, digital transmission, 2955
- data processing, myoelectric control, prosthesis, orthosis, 3128
- digital computer, history, basic systems, 3161
- diagnosis, past and future, review, 3162
- dosimetry, radiotherapy, roentgen film, 3165
- diagnosis, electrocardiography, mass screening, 3167
- diagnosis, electrocardiography, 3170
- data processing, punch card, serology, 3182
- diagnosis, thyroid disease, diagnosis, marseille, 3544

- data processing, dentistry, orthodontic, 3557
- electric filter, design, 175
- epidemiology, 445
- electrocardiography, telemetry, telephone, telephone telemetry, low cost, 473
- electrooculography, automatic recording, 475
- electrocardiography, gynecology, medical record, mark sense form, 481
- environmental health, heart rate, monitoring, skin temperature, tape recording, data logger, computer compatible output, 486
- electrocardiography, mass screening, 860
- electroencephalography, hybrid computer, sharp transient detection, 861
- electroencephalography, spike wave, detection, quantification, 862
- epilepsy, population, statistics, 875
- education, hematology, anemia, differential diagnosis, 1163
- electrocardiography, heart arrhythmia, heart rate, mathematic model, monitoring, clinical use, 1185
- education, genetics, 1203
- electrocardiography, vectorcardiography, mathematical definition, 1205
- electrocardiography, exercise, exercise test, rest, 1206
- examination, medical education, multiple choice test, physiology, 1950
- electrocardiography, 1956
- echoencephalography, automatic midline system, 1961
- electromyography, frequency analysis, olivetti p101, biomac 500, 1964
- exercise test, gas exchange, lung ventilation, metabolism, respiration, breath by breath analysis, 1979
- electromyography, frequency analysis, quantitative emg, 2362
- electrocardiography, heart arrhythmia, 2408
- electrocardiography, heart atrioventricular block, heart disease, heart infarction, 2409
- electrocardiography, quantitative, critical appraisal, 2411
- electrocardiography, heart arrhythmia, heart ventricle, lidocaine, monitoring, ouabain, phenytoin, mouse 2801
- epidemiology, salmonella typhimurium, salmonellosis, epidemiology, computer analysis, france, 3149
- electrocardiography, heart ventricle defibrillation, digitalis intoxication, 3169
- electrocardiography, heart arrhythmia, analysis, 3174
- electrocardiography, comment, 3548
- electroencephalography, electromyography, hybrid computer, rem sleep, sleep, 3562
- electroretinography, retina pigment degeneration, improved detection method, 3774
- electrocardiography, vectorcardiography, 3777
- electrocardiography, automatic analysis, 3778
- electroencephalography, signal noise ratio, zero cross analysis, 3779
- electroencephalography, epilepsy, spike, automatic spike estimation, 3780
- exercise test, spirometry, lung function, on line computer, 3784
- face, growth, radiography, skull, morphometrics, 1974
- fick method, heart output, thermodilution curve, method comparison, dog, 3783
- gas chromatography, siemens 300, 450
- gas chromatography, 451
- gas chromatography, mulheim, 452
- gas chromatography, time sharing, 453
- gas chromatography, 454
- gas chromatography, 455
- gas chromatography, 456
- gas chromatography, interfacing, 458
- gas chromatography, integrator, 459
- gas chromatography, hewlett packard, 460
- gas chromatography, prag system, 461
- gas chromatography, 462
- gamma radiation, scintigraphy, scintillation camera, scintillation counting, count rate loss correction, 1149
- gas chromatography, 1166
- gas chromatography, 1167
- general practitioner, 2392
- general practice, medical record, 2817
- hemostasis, teaching, 760
- hospital management, 1164
- health service, computer center, 2388
- heart arrhythmia, hybrid computer, qualitative analysis, 2814
- health screening, japan, 3148
- image processing, bibliography, 657
- intention tremor, tremor, recording and analysing, 1130
- iodine 131, technetium 99m, thyroid function, thyroid gland, method validation, 239 patients, 2808
- karyotype 46,XY plotter, data fitting, photolithic mask, 991
- language, learning, speech, display system, second language learning, 757
- line 8 computer, personal system, 1622
- latent period, minnesota multiphasic personality inventory, psychologic test, 1982
- mass screening, multiphasic health testing, 850
- medical record, france, 865

- muscle, muscle fiber, image processing, 1420
- medical record, data bank, integrated system, 1619
- medical record, retrieval, semantic analysis, 1620
- metaphase, microscopy, mitosis, automatic microscopy, 1624
- maintenance, reliability, 1782
- medical record, speech, telephone, touch tone telephone, 1967
- mathematic model, vectorcardiography, 3559
- memory, algorithm, organisation, 3734
- newborn, heart right ventricle, vectorcardiography, 100 newborns, 2407
- neurophysiology, 2427
- neurophysiology, 2428
- nuclear medicine, radiology, 3154
- nerve potential, spike, 3790
- preamplifier, signal noise ratio, television camera, 233
- pulse generator, preset number, test equipment, 635
- placenta, videoscanning, 1202
- pharmacology, toxicology, APL/360 system, 1611
- psychophysiology, present status, 3788
- psychologic test, 3789
- ribonucleic acid, pairing schemes, 2805
- retrieval system, heart tape recorder, portable, 2818
- radiology, radiotherapy, 3782
- sexual behavior, analysis, male rat, 490
- statistics, karyotype 46,XY plotter, 1160
- spectrometry, camera tube, 1457
- spirometry, lung function, preliminary report, 1980
- spectrophotometry, visual pigment, insect, frog, 2348
- scintigraphy, skeleton, spine, statistics, 42 scintigram, 2389
- scintigraphy, methods, 3776
- tape recording, review, 680
- teaching, system caen, 1602
- tape, tape updating, 1787
- time sharing, blood analysis, pdp8-cdc-3200, 2399
- vision, future eye care, 446
- computer center**, computer, health service, 2388
- computer memory**, 2833
 - analog computer, 238
 - amplifier, digital computer, mos semiconductor, driver, 607
 - analog digital converter, vidicon, analog buffer, 676
 - analog digital converter, recording, digital recording, 2542
 - blindness, computer program, speech, programmer, 448
 - blindness, reading machine, 1572
 - computer, scintillation camera, maximum frame rate analysis, 235
 - computer program, digital computer, psychology, extended scat, 1633
 - computer, digital computer, electroencephalography, frequency analysis, display system, pdp 8 i, 3 dim representation, 2824
 - cathode ray oscilloscope, 100 megabit, 3295
 - cathode ray oscilloscope, digital computer, siemens gdr 101-2700, 3564
 - data processing, holography, 245
 - digital computer, shift register, 70 mhn, 1794
 - display system, plasma display, optical read out, 2128
 - digital computer, shift system, degree of complexity, 2165
 - display system, 2608
 - digital computer, ram, signetics 2602, 2609
 - digital computer, core memory, tobec 5600 130/140, 3366
 - echography, tomography, ultrasonics, display system, image processing, color presentation, 2161
 - holography, infrared radiation, memory, spectrometry, 1479
 - holography, magnetic bubble, review, 1790
 - mos memory, 2168
 - ovonic memory, 2974
 - power supply, power failure, stand by power supply, mos memory, 2167
 - semiconductor, switch, amorphous semiconductor, 2834
 - shift system, random data input, 3637
- computer model**, analog computer, coughing, expiration, 68
 - artery model, artery pulse, digital computer, non linear model, 72
 - analog computer, blood pressure, brain blood flow, halothane, lung alveolus, drug distribution, in vitro study, 434
 - aorta flow, counterpulsation, heart output, heart ventricle pressure, hemodynamics, aorta balloon pump 569
 - artery, artery model, mathematic model, static properties, 570
 - audiometry, digital computer, electroencephalography, filter, evoked response audiometry, matched filter, 938
 - algorithm, immunodiffusion, diffusion, 1258

- arm, learning, vision, visual adaptation, 1259
- antidiuresis, kidney medulla, sodium, kidney tubule absorption, computer simulation, osmotic gradient without active transport, 1308
- air pollution, environmental health, plant, power, 1410
- analog computer, cloaca, intestine absorption, ureter, urine, bird, 2030
- analog computer, model, nerve cell, nerve cell, 2075
- alpha rhythm, electroencephalography, model, nerve cell potential, nerve cell, 2080
- analog computer, heart muscle oxygen consumption, hemodynamics, computing, 2260
- analog computer, gamma system, movement, muscle spindle, 2431
- analog computer, blood flow, blood volume, radioisotope, 2726
- aldosterone, body water, cardiovascular system, henle loop, kidney tubule, mathematic model, model, renin, sodium, vasopressin, kidney proximal convoluted tubule, 2756
- analog computer, decompression, diving, model, 2763
- abdomen, airway resistance, breathing mechanics, diaphragm, digital computer, lung compliance, 2823
- airway resistance, artificial ventilation, breathing mechanics, intermittent positive pressure breathing, lung alveolus pressure, flow pattern study, 3717
- brain, computer program, endocrine gland, mathematic model, model, nerve cell network, non linear system, 30
- behavior, sociology, 887
- basement membrane, cochlea, digital computer, model, 922
- basement membrane, cochlea, hearing, loudness, model, band pass noise stimulus, 1679
- brain circulus arteriosus, hemodynamics, dynamics, dog, 2068
- blood pressure, central nervous system, computer, diagnosis, heart disease, heart rate, 3775
- computer, digital computer, flagella, model, viscosity, sliding filament theory, 58
- cochlea, computer, digital computer, hearing, model, cochlear partition, hybrid computer model, 91
- cardiovascular system, model, vein, 122
- computer program, mitosis, thymidine h 3, plm curve, monte carlo simulation, 536
- computer, electric field, electroencephalography, skull, intercranial field, inhomogeneity, 792
- computer, electron microscopy, magnetic field, design, 1386
- computer, mathematic model, model, 1604
- cell, cell kinetics, mitosis, rotating fourier ring, 1652
- cell membrane, cell membrane permeability, diffusion coefficient, convection, 3.2 a pore, 2001
- computer program, myelin, nerve, nerve conduction, 2076
- cerebellum cortex, purkinje cell, purkinje cell potential, background activity model, 2331
- computer program, model, nerve cell, 2332
- color blindness, color vision, spectral sensitivity, fick's shifting hypothesis, 2340
- computer, computer program, metabolism, metasim simulator, 2463
- cold stress, hypothalamus, preoptic area, skin temperature, thermoreceptor, environment temperature, 2 temperature input models, 2875
- computer program, digital computer, logical network array, 2967
- cell kinetics, digital computer, laplace law, mathematic model, cell division, radioisotope, transit time, laplace transfer method, 3580
- digital computer, expiration, lung model, lung volume, 69
- digital computer, population dynamics, non linear dynamics, 334
- data processing, scintigraphy, 867
- diagnosis, model, diagnosis model, 1180
- digital computer, plotter, display system, hidden line elimination, 1409
- diagnosis, digital computer, model, 1613
- diagnosis, mathematic model, 1617
- digital computer, telemetry, synchronous multiplexing system, 1791
- diagnosis, mathematic model, ledley lusted model, 1954
- digital computer, glucose, glucose tolerance test, insulin, mathematic model, 1996
- digital computer, memory, 2326
- diagnosis, jaundice, 2812
- digital computer, environmental health, model, 3221
- entropy, mathematic model, nervous system, 2074
- electroencephalography, model, rem sleep, sleep, model vs rat, 3484
- flash lamp, model, electron drift, electron diffusion, 294
- flagella, model, sliding filament theory, 1273
- gamma radiation, scintillation camera, scintillation counting, conization chamber, performance test, 1148
- gas exchange, heart output, lung diffusion, lung model, lung ventilation, nitrogen, 3254
- heart conduction system, mathematic model, numerical simulation, dog, 768
- henle loop, kidney tubule absorption, urea, urine osmolality, water, countercurrent multiplier system, 1307
- heart electric field, homogeneous tridimensional environment, 2906
- image processing, motion degradation, 658
- image processing, coma restoration, 659
- laminar air flow, arbitaross section, 131
- learning, nerve cell, self organizing system, 3265
- muscle, muscle model, sliding filament theory, stimulation purposes, 2048
- model, public health, public health service, demographic model, regional model, 2394
- mathematic model, nerve cell, nerve cell model, postsynaptic potential, synapse,

input output relations, mollusc comparison, 2920
 -model, enzyme, chemical kinetics, quantum model, oscillation, 3227
 -nerve cell model, nerve cell network, 138
 -nerve fiber membrane conductance, hodgkin huxley equation, nerve conduction, nerve fiber membrane capacitance, nerve potential, properties, squid, 935
 -nerve cell potential, stretch receptor, slow adapting receptors, crayfish, 1324
 -protein synthesis, 25
 -smooth muscle, stomach muscle, stomach potential, partial cuts, dog, 136
 -suspension, colloid, spherule, equal sphere, unequal sphere, 1229
 -task performance, display system, man machine interaction, non compensatory tracking task, 1660
computer program, 1703
 -artery pulse, phase velocity and transmission computation, 485
 -acid base balance, blood, base excess, 855
 -adenosine triphosphate, calcium, data processing, ethylene glycol bis(2 aminoethyl)tetraacetate, muscle relaxation, spectrometry, 1174
 -anxiety, diagnosis, digital computer, history, 1178
 -acid base balance, computer, electrolyte balance, 1612
 -aminoacid, analyzer, digital computer, drug analysis, 2402
 -aminoacid, cell extract, fortran, hydrolysate, automatic calculation, 2806
 -audiometry, digital computer, hearing, hearing threshold, snap pdp 8 computer, 3184
 -acid base balance, acidosis, alkalosis, blood ph, teaching, systematic approach, instruction and diagnosis, 3545
 -antibiotic agent, bacterium, computer, drug resistance, drug sensitivity, 3771
 -brain, computer model, endocrine gland, mathematic model, model, nerve cell network, non linear system, 30
 -blindness, computer memory, speech, programmer, 448
 -brain blood flow, computer, perthechnetate tc 99m, 487
 -blood flow, blood volume, dye dilution curve, mathematic model, radiotracer, flow measurement, third mixing chamber, 1628
 -brain depth recording, parkinsonism, thalamus, stereotaxic surgery, brain depth stimulation, probe location, pdp 12, 1631
 -blood gas, blood oxygen, blood ph, electrode, oxyhemoglobin, 2066
 -body, digital computer, plutonium, urine, sebeach, 2420
 -blindness, digital computer, reading aid, a.r.t.s., 2776
 -biopsy, data processing, digital computer, pathology, display system, 8000 cases, 3155
 -bone density, computer, finger, iodine 125, profile scanner, 3181
 -band pass filter, digital filtering, low pass filter, design, 3371
 -body plethysmography, computer, gas analysis, lung alveolus, spirometry, 3560
 -brain, computer, stereotaxic surgery, localization technique, 3731
 -cancer, cancer radiotherapy, digital computer, medical record, 241
 -computer, diagnosis, newborn, exchange blood transfusion, 465
 -computer, social behavior, complex transitional matrices, 488
 -computer, psychometry, 489
 -computer model, mitosis, thymidine h 3, plm curve, monte carlo simulation, 536
 -cesium 137, cobalt 60, gamma radiation, mercury 203, disc source, self absorption, 738
 -cancer cell, chromosome, leukocyte, leukocyte count, 853
 -cancer, data processing, medical record, radiotherapy, 863
 -computer, scintigraphy, program packing, 866
 -computer, digital computer, patient, hospital management, 1175
 -cancer, cancer radiotherapy, treatment evaluation, 1189
 -cancer, cancer radiotherapy, treatment evaluation, 1190
 -cephalometry, computer, dentistry, digital computer, orthodontics, review, computer use, 1199
 -counter, digital computer, lung alveolus, 1209
 -cell model, cyst, development, digital computer, model, algae, celia program, 1242
 -cluster, taxonomy, classification, object classification, nonparametric classification, 1414
 -cancer, death, life, therapy, nonparametric k sample test, 1603
 -computer, man machine interaction, book, 1605
 -computer, clinical laboratory, 1610
 -computer memory, digital computer, psychology, extended scat, 1633
 -computer, diagnosis, pathology, 1960
 -chromosome, computer, karyotype, karyotyping, bayesian and logical approach, 1971
 -computer, marriage, 1973
 -computer model, myelin, nerve, nerve conduction, 2076
 -computer model, model, nerve cell, 2332
 -computer, data processing, electrooculography, 2406
 -computer, digitoxin, digoxin, glucoside, digitalis intoxication, dose kidney function relation, drug dose, 2417
 -computer, fortran, pathology, information system, fortran, 2422
 -computer, computer model, metabolism, metasim simulator, 2463
 -colorimetry, color matching, 2646
 -chromosome, computer, digital computer, microscopy, computer analysis, focus, 2819
 -computer model, digital computer, logical network array, 2967
 -computer, language, time reduction, markov algorithm, 2968

- carbon dioxide, glucose, glycolysis, lactic acid, metabolism, pyruvic acid, warburg apparatus, 3158
- computer, electrocardiography, vectorcardiography, 3166
- computer, diagnosis, electrocardiography, multigroup diagnosis, 3173
- cell, microscopy, taxonomic intracellular analytic system, ticas, 3179
- computer, coronary care unit, heart infarction, ischemic heart disease, display, man machine interaction, midas program, 3186
- curve reader, fortran, 3d surface, 3363
- chromatography, electrophoresis, thin layer gel filtration, resolving overlapped and skewed peaks, 3541
- computer, nuclear medicine, radioisotope, 3542
- deoxyribonucleic acid, electron microscopy, atom discrimination, 224
- data processing, hospital, neurology, psychiatry, algol, 449
- diagnosis, history, 464
- diagnosis, digital computer, discriminatory analysis, electroencephalography, 467
- digital computer, gastrointestinal tract, radiology, 470
- digital computer, medical record, radiation dose, radiotherapy, 471
- diagnosis, electrocardiography, heart arrhythmia, heart rate, electrocardiography, 472
- dosimetry, radiotherapy, radium, applicator, ernst applicator, dec pdp8, 477
- diagnosis, digital computer, electrocardiography, heart arrhythmia, 859
- digital filtering, 1001
- drug, hormone, 1168
- digital computer, hospital management, 1176
- diagnosis, digital computer, medical record, hartford hospital, 1193
- data processing, digital computer, program test, 1792
- digital computer, program size, 1795
- digital computer, errors, 1799
- digital computer, drug, model, pharmacokinetics, 1953
- depth dose, radiotherapy, treatment planning, 1965
- digital computer, electrocardiography, 1435 cases, multi lead recording, 2413
- digital computer, electrocardiography, comparative analysis, 2414
- data processing, information, multivariate analysis, statistics, non linear regression, 2455
- digital computer, optimization, algol program, 2604
- digital computer, hearing, speech, pattern recognition, segment classification, 2724
- dosimetry, radiology, radiotherapy, standardization, 2815
- dosimetry, radiography, radiotherapy, radcomp program, 2816
- digital computer, holography, fourier transform, image processing, hologram synthesis, 2958
- digital computer, plotter, printing, 2970
- data processing, modular block, 2978
- digital computer, mathematic model, medical research, layout, financial aspects, fortran iv, 3156
- digital computer, radiography, scintigraphy, image processing, cdc 6600, cdc 7600, 3273
- digital computer, dyslexia, electroencephalography, frequency analysis, 12 children, 13 normals, 3552
- digital computer, program schemes, recursion schemes, 3666
- digital computer, electroretinography, evoked cortical response, evoked visual response, 3748
- electromyography, frequency analysis, motor unit potential, parameter analysis, 474
- epidemiology, psychiatry, symptom, 857
- epidemiology, psychiatry, symptom, 1959
- electrocardiography, program selection, 3549
- electrocardiography, minimal performance requirements, 3550
- electrocardiography, 6162 ecg's, mayo ibm analysis program, 3551
- fourier transform, image processing, 660
- fortran, 990
- frequency analysis, nerve cell potential, neurophysiology, heart tape recorder, intermediate tape storage, 3190
- genetics, immunology, tissue typing, 852
- history, psychiatry, 673
- history, psychiatry, 1780
- information theory, model, fortran, gentzen, church, ohama, calculus, 27
- immunoassay, protein binding, generalized computer program, 854
- iodine 131, phosphorus 32, statistics, nuclear radiation, chi square test, 2923
- information processing, digital computer, exponential model, information processing, sum of exponentials, 3573
- information processing, digital computer, radiology, hospital administration, 3781
- leukocyte antigen hl a1, HL A system, tissue typing, pitfalls in the use of isoantibodies, 851
- loudspeaker, fortrau, 2708
- mass spectrometry, 463
- medical record, on line, natural language, 1191
- model, myoglobin, protein, display system, structure visualization, 1266
- model, statistics, data fitting, chemical kinetics, fortran, 1607
- macromolecule, protein, 3 dimensional structure, 1609
- model, developmental biology, 2395
- minnesota multiphasic personality inventory, psychologic test, 2429
- minnesota multiphasic personality inventory, psychologic test, 2430
- minnesota multiphasic personality inventory, psychologic test, 3785
- nerve cell potential, heart tape recorder, multi unit sorting, superposition potentials resolution, 2426

- polarity correlation, discriminator bias, 1404
- psychophysiology, 1629
- psychophysiology, literature, 1630
- radiotherapy, cobalt therapy, isodose display, 476
- radioimmunoassay, 1165
- concentration**, model, diffusion, gel, chemical kinetics, concentration equation, 1239
- conditioning**, alpha rhythm, behavior, consciousness, electroencephalography, biofeedback, mapping method, 1114
 - adductor muscle, avoidance behavior, muscle fiber potential, temperature, locust, 1911
 - direct current, electrostimulation, motor cortex, temporal cortex, cat, 1908
 - escape behavior, memory, heterogeneity, rat, 795
 - epilepsy, mathematic model, 941
 - face, model, movement, prosthesis, linear filter theory, cat, prosthesis, 3110
 - instrumental conditioning, learning, study apparatus, monkey, 798
 - learning, semiautomatic device, rat, 3483
- conductance**, basal metabolic rate, body, cooling, thermodynamics, 2874
 - cell membrane, hydrogen ion, proton, stomach mucosa, 2863
- conduction deafness**, deafness, ear drum, hearing, review, 1570
- conductivity**, cancer cell, cell, ehrlich ascites tumor, cell conductivity, 704
 - erythrocyte, model, suspension, 1031
 - model, semiconductor, tissue, nonlinear system, theory, 3618
- conization chamber**, beta radiation, dosimetry, radiotherapy, roentgen radiation, comparison, essen umea, villejuif umea, 1144
 - computer model, gamma radiation, scintillation camera, scintillation counting, performance test, 1148
 - dosimetry, linear accelerator, radiotherapy, roentgen radiation, 3759
- connective tissue**, bone, cardiovascular system, muscle, biomaterial, biocompatibility, book, 1219
 - collagen, mathematic model, metabolism, proline h 3, rats, mathematic modelling, 894
 - collagen, mathematic model, metabolism, proline h 3, rats, mathematic modelling, 3223
- connector plug**, artificial ventilation, gas, wrong connection, 1891
 - blood pressure, catheter, skin, implantation, 419
 - brain depth recording, stereotaxic implantation, skull, without screws, rat, 1554
 - electrode, harness, rat, 1565
- consciousness**, alpha rhythm, behavior, conditioning, electroencephalography, biofeedback, mapping method, 1114
- container**, erythrocyte, erythrocyte preservation, liquid nitrogen, 3054
- contamination**, electron microscopy, vacuum pump, polymer growth reduction, fluorocarbon oxide pump fluid, 3662
 - mercury, 1024
- contingency table**, information, multivariate analysis, statistics, independance test, 2857
- contour**, vision, contrast, compensation measurement method, 799
- contraception**, monitoring, pregnancy, temperature, thermometer, 691
- contrast**, brightness, evoked cortical response, evoked visual response, vision, volunteers, 3607
 - fiberscope, contrast transmission, 1389
 - filter, image processing, random diffuser, 2162
 - light adaptation, retina, vision, psychophysical retinal organization, 101
 - mathematic model, visual acuity, 1295
 - scanning electron microscopy, contrast measurement, 3352
 - vision, contour, compensation measurement method, 799
- control system**, radiodiagnosis, roentgen apparatus, siemen siregraph, telecontrol, 3517
- convection**, cell membrane, cell membrane permeability, computer model, diffusion coefficient, 3.2 a pore 2001
- convergence**, retina, stereoscopic vision, vision, visual field, asymmetric convergence, frame of reference, 1690
- converter**, active filter, design, 1347
 - battery, power-supply, electric motor, 2551
 - instrumentation recorder, improvement, 201
 - power supply, high reliability, 644
 - thyristor, transient suppression, 1378
- convulsion**, brain cortex, electroencephalography, epilepsy, motivation, 3108
 - model, motivation, motivation center control, 2098
- cooling**, body temperature, water, cooling clothing, efficiency and effectiveness of 11 water cooled suits, 160
 - basal metabolic rate, body, thermodynamics, conductance, 2874
 - body temperature, protective clothing, cooling clothing, independent regional control, 3048
 - cell preservation, under -90 degrees C, 2241
 - fluorescence, liver, temperature, mitogenesis, mouse, 1860
 - fish, carotid artery revascularization, maintenance system, flat fish, 2503
 - glycerol, lysosome, microsome, mitochondria, thermoluminescence, 2006
 - heat pipe, 262
 - lymphocyte, thermocouple, cooling system, 3278
 - nitrogen, photomultiplier, 597
 - nitrogen, radiation, device, 1334
 - photomultiplier, spectrometry, spectral sensitivity, 1341

- peltier effect, control device, 2928
- temperature, thermometer, 3667
- cooling clothing**, body temperature, cooling, water, efficiency and effectiveness of 11 water cooled suits, 160
 - body temperature, cooling, protective clothing, independent regional control, 3048
- copper**, alternating current, cadmium, phosphorus, electroluminescence, cds cu powder, 2625
 - aluminum, blood, hemolysis, nylon, stainless steel, teflon, polystyrene, implantation, 3698
 - cadmium, direct current, phosphorus, electroluminescence, 2673
 - electron microscopy, mica, silver, calibration, crystal removing, 2591
 - prosthesis, thrombosis, histology, ultrastructure, dog, 1872
- cornea**, color vision, retina cone, spectral sensitivity, vision, monkey, 817
 - circadian rhythm, microscopy, cornea thickness, vickers image splitting eyepiece, 3118
 - cornea transplantation, plastic, silastic, cutting, silicone cups, 3765
 - esthesiometer, cornea sensibility, testing instrument, 236 volunteers, 1569
 - eye, retina image, vision, 2893
 - instrument, 2382
 - ophthalmodynamometry, 1571
- cornea contact lens**, eye, lens, myopia, vision, eye glasses, 17,000 cases, progressive myopia, comparison, 1116
 - manufacture, fitting, 3113
- cornea edema**, cornea stroma, model, sodium chloride, swelling pressure theory, 1567
- cornea sensibility**, cornea, esthesiometer, testing instrument, 236 volunteers, 1569
- cornea stroma**, cornea edema, model, sodium chloride, swelling pressure theory, 1567
- cornea thickness**, circadian rhythm, cornea, microscopy, vickers image splitting eyepiece, 3118
- cornea transplantation**, cornea, plastic, silastic, cutting, silicone cups, 3765
 - surgical microscope, trephine, 3114
 - scissors, 3537
- coronary angiography**, digital computer, exercise, ischemic heart disease, vectorcardiography, vcg quantitative processing, 2405
- coronary artery**, cannula, multi purpose cannula, dog, 2732
- coronary artery bypass graft**, arterial carbon dioxide tension, arterial oxygen tension, arterial ph, extracorporeal circulation, oxygenation, plastic membrane, thrombocyte count, 3m² lande edwards disposable oxygenator, 1877
- coronary artery flow**, adrenalin, chlorpromazine, heart output, isoprenaline, left heart ventricle, propranolol, aorta balloon pump, dog, 1530
 - assisted circulation, heart output, aorta balloon pump, improved system, dog, 2728
 - aorta flow, femoral artery flow, saphenous vein, potential error sources, 3062
 - computer, scintigraphy, scintiscanning, dog, 1627
 - coronary artery obstruction, coronary vascular resistance, heart muscle, oxygen consumption, standardized functional stenosis induction method, dog, 1878
 - glyceryl trinitrate, heart ventricle compliance, left heart ventricle, left heart ventricle pressure, left heart ventricle volume, sinusoidal forcing function, dog, 1536
- coronary artery obstruction**, coronary artery flow, coronary vascular resistance, heart muscle, oxygen consumption, standardized functional stenosis induction method, dog, 1878
- coronary care unit**, computer, computer program, heart infarction, ischemic heart disease, display, man machine interaction, midas program, 3186
 - digital computer, electrocardiography, monitoring, 2416
- coronary vascular resistance**, coronary artery flow, coronary artery obstruction, heart muscle, oxygen consumption, standardized functional stenosis induction method, dog, 1878
- correlator**, optical correlator, 1405
- corrosion**, ceramic, soft tissue, toxicity, glass, implantation, subcutis, biocompatibility, histology, electron microscopy, rat, 1639
 - stainless steel, titanium, vitallium, zinc, metal, implantation, alloy, 1213
- cortical bone**, bone, elasticity, stress, mechanical testing, 3590
 - femur, strength vs density, 418
- corticotropin**, hormone, supercategory, 900
- corti organ**, cochlea microphonic potential, endolymph, middle ear, hair cell, endolymphatic pressure, review, 801
 - microelectrode, oxygen, ph electrode, tunnel of corti, guinea pig, 929
- cosmetic agent**, blepharoplasty, clamp, skin, 1944
- cosmic radiation**, dosimetry, gamma radiation, back ground reduction, 311
 - nuclear data, scintillator, z=12 to 28, 3432
 - oscilloscope, television camera, instrumentation recorder, 2702
 - pion radiation, scintillator, ne 102a, 2230
 - spectrometry, photographic film, ilford k2, 321
- cosmonaut**, maneuvering scheme, 421
- coughing**, analog computer, computer model, expiration, 68
- coulter counter**, blood flow, erythrocyte, aspherical particle rotation, 2487
 - particle counter, pulse shape analysis, 1009
- counter**, computer program, digital computer, lung alveolus, 1209
 - coincidence counting, particle counter, error correction, 1514
 - divider, adjustable divider, voltage controlled divider, 2607
 - electronic counter, synchronous up down counter, 2939

- fast centesimal counter, 2945
- heavy particle radiation, neutron radiation, helium 3, multiplicity counter, 712
- luminescence, half life time, photon counter, 1438
- nuclear radiation, sampler, asynchronous sampler, 1747
- neutron radiation, spectrometry, total absorption counter, 2703
- ring counter, 190
- reaction time, timer, display system, 2315
- radioisotope, chlorine 36, differential counter, 2699
- shift register, 186
- semiconductor detector, silicon, multi counter system, 708
- timer, dead time compensation, 1064
- countercurrent multiplier system**, computer model, henle loop, kidney tubule absorption, urea, urine osmolality, water, 1307
- kidney medulla, simple system, 382
- counterpulsation**, aorta flow, computer model, heart output, heart ventricle pressure, hemodynamics, aorta balloon pump, 569
- aorta pressure, assisted circulation, femoral artery, systolic blood pressure, aorta balloon pump, method comparison, 3067
- covariance**, data reduction, digital computer, image processing, karhunen loeve method, 2610
- statistics, levin method, 2467
- creatine phosphokinase**, computer, data processing, laboratory, lactate dehydrogenase, serum, serum aspartate aminotransferase, system analysis, enzyme, 1172
- creativity**, brain, learning, model, nerve cell, nerve cell model, creative process simulation, 1656
- critical band width**, auditory masking, hearing, sound, signal noise ratio, critical masking interval, 1693
- vision, visual masking, visual system, signal noise ratio, 563
- critical flicker fusion**, chromatic adaptation, color vision, light adaptation, monochromatic light, vision, 3249
- eye movement, movement detection, motion picture, apparent motion, 1113
- cryoextraction**, krwawicz's extractor, thermal characteristics, 3116
- cryogenics**, helium, switch, thermal switch, 1017
- level control, nitrogen, detector, 1427
- switch, cryostate, thermal switch, 2622
- vacuum sealing, seal, 3198
- cryoprobe**, biopsy, cancer, cryosurgery, freon 22, 444
- cancer, cryosurgery, head and neck cancer, inexpensive cryoprobe, 2380
- cryostate**, cryogenics, switch, thermal switch, 2622
- knife, microtome, jung k knives, 2930
- nuclear radiation, semiconductor detector, ge(hi), 2998
- cryosurgery**, biopsy, cancer, cryoprobe, freon 22, 444
- cancer, cryoprobe, head and neck cancer, inexpensive cryoprobe, 2380
- crystal**, adenosine diphosphate, 956
- electron spin resonance, goniometer, single crystal, 2692
- infrared radiation, light absorption, light polarizer, model, dichroism, 3014
- crystal oscillator**, 1365
- frequency standard, time standard, temperature compensation, 20
- culdcentesis**, ovary carcinoma, 1942
- cuneate nucleus**, cerebellum, joint, movement, nerve cell potential, cuneocerebellar tract, 3129
- cuneocerebellar tract**, cerebellum, cuneate nucleus, joint, movement, nerve cell potential, 3129
- cuprophane**, dextriferon, hemodialysis, membrane, 1545
- current amplifier**, amplifier, semiconductor, scanning electron microscopy, 230
- power supply, low current generator, 10(-10) - 10(12) as calibration, 3304
- current density**, electricity, electric shock, heart ventricle fibrillation, dog, current density, man, 3469
- current frequency converter**, 983
- current meter**, amplifier, dosimetry, electron microscopy, logarithmic amplifier, picoammeter, 3286
- direct current, digital measurement method, 2125
- diode, fiberoscope, telemetry, voltmeter, 2145
- diode, indicator, voltmeter, display system, linear indicator, 3768
- nano ampere, 2986
- phase meter, power measurement, voltmeter, six port coupler, 2190
- current stabilizer**, power supply, 195
- curve fitting**, action potential, data processing, osmotic pressure, data fitting, virial expansion, 538
- data processing, embryogenesis, data fitting, allometry, gompertz curve, 1240
- data processing, radiotracer, data fitting, chemotracer, exponentials, 1265
- data processing, model, monitoring, statistics, time dependent data, 2013
- exponential fitting, 2029
- curve reader**, computer, digital read out, 234
- computer program, fortran, 3d surface, 3363
- cutting**, cornea, cornea transplantation, plastic, silastic, silicone cups, 3765
- cyanoacrylate**, cement, dentistry, glue, polymer, adhesive agent, 3565
- cybernetics**, carcinogenesis, fertilization, genetics, information, model, regeneration, 3226
- cyclopropane**, anesthetic equipment, ether, halothane, methoxyflurane, rubber, drug absorption, 372
- cyst**, cell model, computer program, development, digital computer, model, algae, celia program, 1242
- cytochrome**, enzyme kinetics, model, oxidation, protein, semiconductor, solid protein, theory, 891

cytochrome c, lipid membrane, protein, roentgen analysis, membrane structure, 2860
cytogenetics, chromosome, computer, genetics, karyotype, karyotyping, usefulness, 1969
cytology, cell potential, direct current amplifier, microelectrode, compensation method, 2518
cytoplasm, electrostimulation, glia cell, nerve cell, nerve fiber, ribonucleic acid, lysine h 3, tritium uridine incorporation, tritonia, 1558

dark adaptation, beta rhythm, electroretinography, frequency analysis, 3505

- electroretinography, frequency analysis, light adaptation, retina, oscillatory potentials, light intensity, man, 3615
- light adaptation, optics, rhabdomere, cockroach, 1697
- luminance, visual acuity, time change, absolute threshold change, 1701
- vision, lateral inhibition, 3608

darkness, scotopic vision, television, thermography, survey, 1121

data analysis, data processing, digital computer, 1664

data bank, computer, data processing, health program, health service, 1159

- computer, medical record, integrated system, 1619
- digital computer, medical record, retrieval system, design, 3547

data fitting, action potential, data processing, osmotic pressure, curve fitting, virial expansion, 538

- computer, karyotype 46,XY plotter, photolithic mask, 991
- computer program, model, statistics, chemical kinetics, fortran, 1607
- data processing, embryogenesis, curve fitting, allometry, gompertz curve, 1240
- data processing, radiotracer, chemotracer, curve fitting, exponentials, 1265

data logger, computer, environmental health, heart rate, monitoring, skin temperature, tape recording, computer compatible output, 486

- data processing, mass spectrometry, 267

data processing, 1005

- autocorrelation, information theory, statistics, square periodic process, 37
- analog digital converter, computer, digital computer, pulse height analysis, dec, pdp7, 279
- action potential, osmotic pressure, data fitting, curve fitting, virial expansion, 538
- adenosine triphosphate, calcium, computer program, ethylene glycol bis(2 aminoethyl)tetraacetate, muscle relaxation, spectrometry, 1174
- autopsy, biopsy, diagnosis, digital computer, nomenclature, pathology, country wide network, dutch palga project, 1196
- autopsy, biopsy, digital computer, epidemiology, nomenclature, pathology, retrieval, 1197
- autopsy, biopsy, computer, histology, nomenclature, pathology, gepact system, country wide network, 1198
- averaging, spectrometry, statistics, 1437
- amplifier, digital computer, on line computer, programmable amplifier, 1784
- bone, computer, fluorine 18, scintiscanning, 307
- beta radiation, computer, digital computer, gamma radiation, spectrometry, 736
- blood bank, blood transfusion, computer, 856
- blood pressure, densitometry, fluoroscopy, heart catheterization, roentgenography, television, display system, patient identification, 2 d representation, 1101
- brain, information, mathematic model, stimulation, 1111
- bronchitis, data reduction, emphysema, epidemiology, 13,000 cases, 1968
- biology, statistics, selective value estimation, 2016
- bacteriology, computer, time sharing, review, 2400
- biopsy, computer program, digital computer, pathology, display system, 8000 cases, 3155
- computer memory, holography, 245
- computer, spectrometry, nuclear radiation, on line, 280
- computer, ergometry, file handling, 447
- computer program, hospital, neurology, psychiatry, algol, 449
- computer, gas chromatography, retrieval, 457
- computer, digital computer, accident, storage protection, 684
- cancer, computer program, medical record, radiotherapy, 863
- computer, medical record, thyroid disease, numerical and logical method to thyroid medical records, 864
- computer model, scintigraphy, 867
- cineradiography, digital computer, laryngography, lip, lip movement, speech, image processing, 1140
- computer, health program, health service, data bank, 1159
- computer, laboratory, 1169
- computer, laboratory, system analysis, 1170
- computer, laboratory, system analysis, 1171
- computer, creatine phosphokinase, laboratory, lactate dehydrogenase, serum, serum aspartate aminotransferase, system analysis, enzyme, 1172
- computer, laboratory, system analysis, 1173
- computer, diagnosis, 1182
- computer, electrocardiography, phonocardiography, 1186
- computer, obstetrics, review, 1200
- computer program, digital computer, program test, 1792
- computer, scintillation camera, scintillation, 1951

- computer, drug toxicity, toxicology, retrieval, 1958
- computer, digital computer, on line computer, scintillation counting, nuclear radiation, pdp 15, ibm 360/65, two computer system, 2166
- cardiovascular system, tape, heart tape recorder, 2273
- computer, general practice, morbidity, simplified data input, 2396
- computer, computer program, electrooculography, 2406
- computer program, information, multivariate analysis, statistics, non linear regression, 2455
- coding, non linear cipher, 2605
- computer, telemetry, digital transmission, 2955
- computer program, modular block, 2978
- computer, myoelectric control, prosthesis, orthosis, 3128
- clinical chemistry, digital computer, clinical laboratory, information processing, 3157
- computer, punch card, serology, 3182
- computer, dentistry, orthodontic, 3557
- digital computer, 248
- digital computer, spectrometry, cary 14, 717
- digital computer, spectrometry, 1453
- digital computer, data analysis, 1664
- digital computer, telephone, 1798
- data processing**, digital computer, convolutional feedback decoder, 2170
- data processing**, digital computer, telephone, anisochronous network, 2173
 - digital computer, terminology, 2174
 - digital computer, electrocardiography, 2415
 - digital computer, telephone, 2599
 - digital computer, telephone, 2600
 - digital computer, telephone, 2601
 - digital computer, telephone, synchronous network, 2602
 - densitometry, digital computer, photography, spectrometry, strip chart recorder, 2613
 - digital computer, drug, hodgkin disease, medical record, therapy, advanced disease, 33 cases, survival, prognosis, 2811
- data processing**, dose response, granulocyte, macrophage, model, population, model, dose response curve, colony stimulating factor, 2845
- data processing**, data reduction, television, 2957
 - data reduction, digital computer, epidemiology, multivariate analysis, smoking, age, 1314 smokers, 176 non smokers, data reduction, age equivalence, 2969
 - digital computer, integrated system, germany, 2975
 - digital computer, electrocardiography, hospital, medical record, clinical laboratory, 3160
 - digital computer, time series analysis, review, 3331
 - digital filtering, telemetry, 3338
 - electroencephalography, ink recorder, 586
 - embryogenesis, data fitting, curve fitting, allometry, gompertz curve, 1240
 - fourier transform, nuclear radiation, exponential, 2996
 - flowmeter, scintigraphy, display system, image processing, ratemeter control, 3139
 - gas analysis, 330
 - information theory, receptor, nervous system, nerve fiber code, 944
 - information processing, data base, 2976
 - linear interpolation, 1408
 - luminescence, spectrophotometry, chemical kinetics, 3017
 - mass spectrometry, data logger, 267
 - magnetic field, perception, 278
 - mathematic model, retina ganglion cell, retina image, vision, optical and neuronal principles, 802
 - medical record, radiology, retrieval, system, 1621
 - model, monitoring, statistics, curve fitting, time dependent data, 2013
 - nuclear radiation, 2995
 - optic filter, image processing, grating, 2454
 - pattern recognition, 1418
 - retrieval, literature, golem siemens, 482
 - radiotracer, data fitting, chemotracer, curve fitting, exponentials, 1265
 - radiotracer, multichannel analyzer, 1593
 - sampling, image processing, data compression, 2 dimensional image, 1587
 - speech, telemetry, digital transmission, 3051
 - vision, device, visual data, 3125
- data reduction**, bronchitis, data processing, emphysema, epidemiology, 13,000 cases, 1968
 - blood oxygen dissociation curve, computer, oxygen tension, oxyhemoglobin, 2809
 - covariance, digital computer, image processing, karhunen loeve method, 2610
 - data processing, television, 2957
 - data processing, digital computer, epidemiology, multivariate analysis, smoking, age, 1314 smokers, 176 non smokers, data reduction, age equivalence, 2969
 - electroencephalography, sleep, automatic analysis, 3487
 - television, vision, digital transmission, 2159
 - television, 2581
 - television, 2582
- data transmission**, digital computer, self bit synchronizer, 1244

- telephone, survey, 1751
- deafferentation**, cerebellum, leg, locomotion, nerve cell, nerve cell potential, spinal cord, spinocerebellar tract, cat, 2757
- deafness**, conduction deafness, ear drum, hearing, review, 1570
 - driver licence, hearing, hypacusis, traffic, evoked acoustic nerve response, 411
 - digital computer, speech, speech training, 758
 - driver licence, hearing, hypacusis, traffic, vestibular system, evoked acoustic nerve response, 3739
 - ear lobe, hearing aid, frequency characteristic, open mold, 1119
 - hearing aid, manufacture, survey, 807
 - hearing aid, cochlea deafness, speech intelligibility, graded instantaneous compression, 812
 - hearing, noise, personality, review, 814
 - hearing aid, history, 818
 - hearing, medical education, 820
 - hearing, medical education, 821
 - hearing, speech, tactile sensitivity, touch, pitch control, 822
 - hearing aid, hypacusis, telephone, intelligibility, telephone characteristics, 1508
 - hearing, industrial health service, occupational deafness, 1913
 - industrial health service, noise, occupational deafness, vestibular system, vibration, 815
- death**, cancer, computer program, life, therapy, nonparametric k sample test, 1603
 - early receptor potential, electroretinography, insect, 2339
 - genetics, mathematic model, model, population, statistics, disease, disease liability, recurrence risk, 2010
 - sudden death, heart tape recorder, telemetry, electrocardiography, 3326
- deceleration**, movement, ship, 1281
- decerebration**, dorsal spinocerebellar tract, locomotion, muscle contraction, nerve cell, 2766
- decision**, diagnosis, mathematic model, model, bayesian approach, 1645
 - judgment, model, suicide, suicide prevention, 2861
- decompression**, analog computer, computer model, diving, model, 2763
- deconditioning**, cardiovascular system, hospitalization, tilting, servo controlled tilt board, 363
- delay generator**, pulse generator, nuclear radiation, 638
 - pulse generator, long delay, 3305
- delta rhythm**, circadian rhythm, electroencephalography, rem sleep, sleep, damped rhythm, 2086
- dendrite**, a reappraisal of field analysis, 2767
 - model, nerve cell, nerve cell potential, postsynaptic potential, compartment model, 2918
 - mathematic model, nerve cell, branch input resistance, 3621
 - nerve cell membrane, nerve fiber, nerve fiber conduction, nerve cell membrane conductance, histology, electron microscopy, geometrical factor, mollusc, 1714
- densitometry**, analog computer, heart output, thermistor, thermometer, time delay, delay correction, 3185
 - blood pressure, data processing, fluoroscopy, heart catheterization, roentgenography, television, display system, patient identification, 2 d representation, 1101
 - blood flow, dye dilution curve, image intensifier, roentgenography, television, flexible window size, diaphragm, 1588
 - data processing, digital computer, photography, spectrometry, strip chart recorder, 2613
 - fluoroscopy, lung perfusion, lung ventilation, pulsatile perfusion determination, 110
 - fluoroscopy, 1932
 - heart, heart size, television, 1528
 - liquid density, solid density, 699
 - small sample, solid sample, 698
 - spectrometry, strip chart recorder, honeywell, elektronik 194, 2804
- density**, process control, signal noise ratio, impulse response, 2849
- dental laboratory**, dentistry, electric motor, universal starter, switch, 849
- dentate gyrus**, hippocampus, nerve cell membrane potential, nerve cell potential, nerve conduction, compartment model, entorhinal cortex, computation, 3266
- dentate nucleus**, hypophysis, stereotaxic device, stereotaxic surgery, man, 442
- dentin**, bone, enamel, tooth, shear stress, 1671
- dentistry**, biomaterial, tensile strength, 2254
 - cephalometry, computer, computer program, digital computer, orthodontics, review, computer use, 1199
 - computer, data processing, orthodontic, 3557
 - cement, cyanoacrylate, glue, polymer, adhesive agent, 3565
 - diagnosis, radiology, present status, sweden, 3524
 - drill, electric motor, siemens micromotor, experience, 3534
 - electric motor, dental laboratory, universal starter, switch, 849
 - electrostimulation, stimulator, tooth pulp, reliability, 3449
 - electroanesthesia, device, electric anesthesia, 3727
 - holography, laser, tooth, introduction, 3011
 - maxilla sinus, radiodiagnosis, roentgen apparatus, temporomandibular joint, film cassette, cassette holder, 3138
 - operation chair, siemens t 3, 3446
 - syringe, semi automatic syringe, reliability, 3451
 - surgery, tissue, irrigation, tissue pressure, army medical irrigator, medical irrigator model 200, 3767
 - tooth, parallelometer, 2255
- deoxycorticosterone**, estradiol, hyperpolarization, meractinomycin, muscle denervation, muscle fiber membrane, muscle fiber membrane potential, protein synthesis, ribonuclease, rat, 3046
- deoxyribonucleic acid**, brain, nerve cell, ribonucleic acid,

- electron microscopy, intact cell preparation, newborn rat, 3093
- computer program, electron microscopy, atom discrimination, 224
- cell, microspectrophotometry, design, 2927
- erythrocyte, sound, shear stress, cell disruption, 1695
- mathematic model, model, one dimensional harmonic model, 2453
- ultrasonics, aqueous solution, 1842
- depressor nerve**, arterial ph, blood pressure, mathematic model, pressoreceptor reflex, vagotomy, 2071
- depth dose**, cobalt 60, computer, dosimetry, calibration chart, 478
 - computer program, radiotherapy, treatment planning, 1965
 - dosimetry, muscle, neutron radiation, phantom, radiotherapy, tissue equivalent, 1145
- depth perception**, binocular vision, monocular vision, vision, quantifying perspective effect, 3742
 - model, rotation, vision, visual illusion, 1563
- dermatology**, cancer, laser, safety, book, 1824
- detector**, cryogenics, level control, nitrogen, 1427
 - flame detector, geiger mueller counter, 1425
 - linear system, non linear system, collapsing loss, 163
- deuteron radiation**, proton radiation, scintillator, ne 230/231, response, 1813
- development**, cell model, computer program, cyst, digital computer, model, algae, celia program, 1242
- developmental biology**, computer program, model, 2395
- dextran**, blood, blood volume, plasma, rheology, sodium chloride, viscosity, in vivo, dog, 1523
- dextriferon**, hemodialysis, membrane, cuprophane, 1545
- diagnosis**, anxiety, computer program, digital computer, history, 1178
 - abdominal pain, computer, diagnosis, 472 patients, 1184
 - autopsy, biopsy, data processing, digital computer, nomenclature, pathology, country wide network, dutch palga project, 1196
 - aorta flow, blood flow, blood pressure, mathematic model, model, pulsatile flow, aorta stenosis, stenosis strouhal number, 1305
 - automation, computer, radiology, television, 2418
 - acute abdomen, digital computer, variance, 552 patients, 3546
 - blood pressure, heart disease, heart model, heart rate, left heart ventricle, peripheral vascular resistance, heart muscle contractility, control system, 357
 - biochemistry, computer, osteopathy, metabolic disorder, 469
 - bronchitis, digital computer, 873
 - biopsy, bone, digital computer, hyperparathyroidism, osteomalacia, bone disease, osteoporosis, quantitative histology, 3164
 - blood pressure, central nervous system, computer, computer model, heart disease, heart rate, 3775
 - computer, electrocardiography, validity, 349
 - computer program, history, 464
 - computer, computer program, newborn, exchange blood transfusion, 465
 - computer, lung cancer, roentgenology, thorax radiography, case series, diagnosis, 466
 - computer program, digital computer, discriminatory analysis, electroencephalography, 467
 - computer, man vs computer logic, 468
 - computer program, electrocardiography, heart arrhythmia, heart rate, electrocardiography, 472
 - computer, statistics, bahadur distribution, 858
 - computer program, digital computer, electrocardiography, heart arrhythmia, 859
 - computer, nuclear medicine, scintiscanning, 1161
 - computer, 1177
 - computer, digital computer, pattern recognition, 1179
 - computer model, model, diagnosis model, 1180
 - computer, thyroid disease, 1181
 - computer, data processing, 1182
 - computer, mathematic model, 1183
 - computer program, digital computer, medical record, hartford hospital, 1193
 - computer model, digital computer, model, 1613
 - computer model, mathematic model, 1617
 - computer model, mathematic model, ledley lusted model, 1954
 - computer, computer program, pathology, 1960
 - cholecystokinin, computer, pancreas, pancreas carcinoma, pancreas disease, pancreatitis, pancreozymin, secretin, 84 patients, 29 normals, 2398
 - computer, 2404
 - chronic disease, computer, heart failure, model, prognosis, symptom, aorta incompetence, 2810
 - computer model, jaundice, 2812
 - computer, past and future, review, 3162
 - computer, electrocardiography, mass screening, 3167
 - computer, electrocardiography, 3170
 - computer, computer program, electrocardiography, multigroup diagnosis, 3173
 - computer, thyroid disease, diagnosis, marseille, 3544
 - digital computer, pathology, international coordination, 1195
 - digital computer, psychiatry, 3 methods comparison, 1615
 - decision, mathematic model, model, bayesian approach, 1645
 - digital computer, clinical decision, 2813
 - discriminatory analysis, intoxication, barbituric acid derivative, 3163
 - digital computer, electrocardiography, accuracy in volunteers, 3172

- dentistry, radiology, present status, sweden, 3524
- endoscopy, roentgen apparatus, roentgen radiation, stomach, 3521
- image intensifier, roentgen radiation, 3520
- mass screening, 1067
- model, 1255
- roentgen radiation, stomach, television, gyroscopic roentgen apparatus, 838
- diagnosis model**, computer model, diagnosis, model, 1180
- dialysis**, cellulose, dialysis membrane, membrane, 3205
 - seawater, sodium chloride, inductive method, 381
- dialysis membrane**, cellulose, dialysis, membrane, 3205
- diaphragm**, abdomen, airway resistance, breathing mechanics, computer model, digital computer, lung compliance, 2823
- diastolic blood pressure**, blood pressure, electrocardiography, public health, screening, systolic blood pressure, cuff method, automation, 124
- dicarboxylic acid**, dosimetry, succinic acid, mixed radiation, 2641
- dichotic listening**, binaural hearing, brain, hearing, hemispheric dominance, speech, ear dominance, verbal stimuli, non verbal stimuli, 2877
- dichroism**, infrared radiation, light absorption, light polarizer, model, crystal, 3014
- dielectric constant**, biological substance, time domain method, 1809
 - bacterium, low frequency dielectric dispersion, 2715
 - cell membrane, cell membrane impedance, cell membrane potential, mathematic model, nerve fiber, nerve fiber potential, fixed charge, 2091
 - lipid membrane, membrane permeability, membrane capacitance, tetraphenylborate sodium, 3225
- diesel engine**, hearing, noise, vibration, 3112
- diet**, biology, mathematic model, linear system, 2177
 - nutritional value, linear programming technique, human, rat, 2253
- differential amplifier**, 1355
 - active filter, 2523
 - amplifier, fet semiconductor, microelectrode, 3631
 - action potential, cathode ray oscilloscope, oscilloscope, 3673
 - direct current amplifier, operational amplifier, specification terminology, 620
 - generator, microvolt signal generator, 1742
 - input impedance, 1346
 - o-50 mh2, 3287
- differential diagnosis**, computer, education, hematology, anemia, 1163
- differentiation**, analog computer, analysis, 239
 - analog computer, 994
 - analog computer, movement, 2594
 - calibration, 366
- diffusion**, approximation method, 1228
 - algorithm, computer model, immunodiffusion, 1258
 - hodgkin huxley equation, model, sodium, voltage clamp, 1264
 - model, gel, concentration, chemical kinetics, concentration equation, 1239
 - membrane permeability, transport equation, transport augmentation, 2878
 - model, muscle, fish, 3135
 - nerve cell, nerve cell membrane, nerve fiber, anomalous reactance, 582
 - nerve fiber membrane impedance, hodgkin huxley equation, mathematic model, nerve fiber membrane potassium, 2496
- diffusion chamber**, 1732
 - bone, bone induction, 3 good bone inducing systems, new type of diffusion chamber implanted in mice, histology, 1068
- diffusion coefficient**, cell membrane, cell membrane permeability, computer model, convection, 3.2 a pore 2001
- digital analog converter**, camac system, 1781
 - fet semiconductor, 642
 - thin film ladder network, 2545
- digital computer**, 1786, 2476
 - artery model, artery pulse, computer model, non linear model, 72
 - analog digital converter, computer, data processing, pulse height analysis, dec, pdp7, 279
 - anesthesia, computer, 484
 - amplifier, computer memory, mos semiconductor, driver, 607
 - averaging, sampling, interpolation, analog signal reconstruction, 674
 - audiometry, computer model, electroencephalography, filter, evoked response audiometry, matched filter, 938
 - anxiety, computer program, diagnosis, history, 1178
 - autopsy, biopsy, data processing, diagnosis, nomenclature, pathology, country wide network, dutch palga project, 1196
 - autopsy, biopsy, data processing, epidemiology, nomenclature, pathology, retrieval, 1197
 - angiography, heart performance, image intensifier, roentgenography, television, biplane roentgenography, 1207
 - analog computer, pattern recognition, 1654
 - amplifier, data processing, on line computer, programmable amplifier, 1784
 - analog digital converter, ramp generator, 2175

- aminoacid, analyzer, computer program, drug analysis, 2402
- artificial heart, research instrumentation, 2742
- abdomen, airway resistance, breathing mechanics, computer model, diaphragm, lung compliance, 2823
- alpha radiation, gamma radiation, spectrometry, semiconductor detector, 3027
- audiometry, computer program, hearing, hearing threshold, snap pdp 8 computer, 3184
- aorta flow, aorta pressure, artery pulse, blood pressure, electrocardiography, heart output, heart ventricle ejection, dog, 3187
- analog computer, computer, power line failure, 3362
- averaging, frequency analysis, oscilloscope, combination instrument, 3539
- acute abdomen, diagnosis, variance, 552 patients, 3546
- beta radiation, computer, data processing, gamma radiation, spectrometry, 736
- ballistocardiography, computer, 870
- bronchitis, diagnosis, 873
- basement membrane, cochlea, computer model, model, 922
- blood pressure, breathing rate, electrocardiography, heart arrhythmia, heart output, monitoring, small computer, 1188
- behavior, instrumental conditioning, real time documentation, 1212
- blood pressure, electroencephalography, electrocardiography, 1962
- body, computer program, plutonium, urine, sebeach, 2420
- blood ph, blood pressure, monitoring, systolic blood pressure, 2421
- blindness, computer program, reading aid, a.r.t.s., 2776
- biopsy, computer program, data processing, pathology, display system, 8000 cases, 3155
- biopsy, bone, diagnosis, hyperparathyroidism, osteomalacia, bone disease, osteoporosis, quantitative histology, 3164
- bch code, 3367
- computer, computer model, flagella, model, viscosity, sliding filament theory, 58
- computer model, expiration, lung model, lung volume, 69
- cochlea, computer, computer model, hearing, model, cochlear partition, hybrid computer model, 91
- cell membrane potential, on line computer, spike, pattern recognition, extracellular recording, 134
- cancer, cancer radiotherapy, computer program, medical record, 241
- calorimetry, model, thermocouple, transient heat, 258
- computer model, population dynamics, non linear dynamics, 334
- color, computer, scintigraphy, 429
- computer program, diagnosis, discriminatory analysis, electroencephalography, 467
- computer program, gastrointestinal tract, radiology, 470
- computer program, medical record, radiation dose, radiotherapy, 471
- computer, liver, scintigraphy, television, 483
- computer, face, man machine interaction, face identification, 509
- computer, process control, introduction, 679
- computer, data processing, accident, storage protection, 684
- computer program, diagnosis, electrocardiography, heart arrhythmia, 859
- computer, pulse counter, pdp 8/e, 996
- computer, rental plan, 997
- computer, pdp 15, 1003
- computer, economy, electrocardiography, monitoring, 1082
- cineradiography, data processing, laryngography, lip, lip movement, speech, image processing, 1140
- computer, paper tape, scintigraphy, scintillation camera, picker 500, 1150
- computer, computer program, patient, hospital management, 1175
- computer program, hospital management, 1176
- computer, diagnosis, pattern recognition, 1179
- computer program, diagnosis, medical record, hartford hospital, 1193
- cephalometry, computer, computer program, dentistry, orthodontics, review, computer use, 1199
- computer, echography, 1204
- computer program, counter, lung alveolus, 1209
- cell model, computer program, cyst, development, model, algae, celia program, 1242
- computer model, plotter, display system, hidden line elimination, 1409
- computer, terminal, 1417
- computer model, diagnosis, model, 1613
- computer memory, computer program, psychology, extended scat, 1633
- cathode ray oscilloscope, oscilloscope, storage oscilloscope, tektronix, 1788
- computer model, telemetry, synchronous multiplexing system, 1791
- computer program, data processing, program test, 1792
- computer memory, shift register, 70 mhn, 1794
- computer program, program size, 1795
- computer, process control, sequential system, control lability, 1796
- computer program, errors, 1799
- computer program, drug, model, pharmacokinetics, 1953
- computer model, glucose, glucose tolerance test, insulin, mathematic model, 1996
- computer memory, shift system, degree of complexity, 2165
- computer, data processing, on line computer, scintillation counting, nuclear radiation, pdp 15, ibm 360/65, two computer system, 2166
- computer model, memory, 2326
- coronary angiography, exercise, ischemic heart disease, vectorcardiography, vcg quantitative processing

- computer program, electrocardiography, 1435 cases, multi lead recording, 2413
- computer program, electrocardiography, comparative analysis, 2414
- coronary care unit, electrocardiography, monitoring, 2416
- computer, sociology, social aspect, 2596
- computer program, optimization, algol program, 2604
- computer memory, ram, signetics 2602, 2609
- covariance, data reduction, image processing, karhunen loeve method, 2610
- computer, hardware, software review, 2615
- computer program, hearing, speech, pattern recognition, segment classification, 2724
- chromosome, computer, computer program, microscopy, computer analysis, focus, 2819
- computer, computer memory, electroencephalography, frequency analysis, display system, pdp 8 i, 3 dim representation, 2824
- cardiovascular system, mathematic model, parameter estimation, 2901
- computer program, holography, fourier transform, image processing, hologram synthesis, 2958
- computer model, computer program, logical network array, 2967
- computer program, plotter, printing, 2970
- computer program, mathematic model, medical research, layout, financial aspects, fortran iv, 3156
- clinical chemistry, data processing, clinical laboratory, information processing, 3157
- computer, history, basic systems, 3161
- computer model, environmental health, model, 3221
- computer program, radiography, scintigraphy, image processing, cdc 6600, cdc 7600, 3273
- computer memory, core memory, tobec 5600 130/140, 3366
- clinical chemistry, 3543
- computer program, dyslexia, electroencephalography, frequency analysis, 12 children, 13 normals, 3552
- character, retrieval system, display system, chinese character, 3555
- cathode ray oscilloscope, computer memory, siemens gdr 101-2700, 3564
- computer program, information processing, exponential model, information processing, sum of exponentials, 3573
- cell kinetics, computer model, laplace law, mathematic model, cell division, radioisotope, transit time, laplace transfer method, 3580
- computer program, program schemes, recursion schemes, 3666
- computer program, electroretinography, evoked cortical response, evoked visual response, 3748
- cell, microscopy, allergy, phase contrast microscopy, trypanosoma, position indicator, pattern recognition, 3770
- computer program, information processing, radiology, hospital administration, 3781
- data processing, 248
- data processing, spectrometry, cary 14, 717
- deafness, speech, speech training, 758
- diagnosis, pathology, international coordination, 1195
- digital filtering, on line computer, initial value method, 1236
- data transmission, self bit synchronizer, 1244
- display system, graph, interactive display, honeywell ddp 16, 1361
- digital filtering, design, finite impulse response, 1411
- data processing, spectrometry, 1453
- diagnosis, psychiatry, 3 methods comparison, 1615
- data processing, data analysis, 1664
- digital filtering, vision, image processing, binary image, 1688
- digital filtering, phase lock amplifier, high order discrete loop, 1789
- digital filtering, telemetry, modulation code, 1793
- data processing, telephone, 1798
- data processing, convolutional feedback decoder, 2170
- data processing, telephone, anisochronous network, 2173
- data processing, terminology, 2174
- data processing, electrocardiography, 2415
- digital filtering, frequency analysis, harmonic analysis, recursive method, kalman filtering, 2466
- data processing, telephone, 2599
- data processing, telephone, 2600
- data processing, telephone, 2601
- data processing, telephone, synchronous network, 2602
- data processing, densitometry, photography, spectrometry, strip chart recorder, 2613
- data processing, drug, hodgkin disease, medical record, therapy, advanced disease, 33 cases, survival, prognosis, 2811
- diagnosis, clinical decision, 2813
- data processing, data reduction, epidemiology, multivariate analysis, smoking, age, 1314 smokers, 176 non smokers, data reduction, age equivalence, 2969
- data processing, integrated system, germany, 2975
- data processing, electrocardiography, hospital, medical record, clinical laboratory, 3160
- diagnosis, electrocardiography, accuracy in volunteers, 3172
- dosimetry, roentgen radiation, 3176
- data processing, time series analysis, review, 3331
- electroencephalography, frequency analysis, haan algorithm, 393
- echography, ultrasonics, display system, 3d display, 431

- electron microscopy, sweep generator, electron probe, magnetic lens, high voltage sweep, 973
- electroencephalography, on line correlator, 1187
- electroencephalography, classification, 1211
- electroencephalography, schizophrenia, sleep, all night sleep, 1963
- enzyme, packed bed reactor, 2401
- electrocardiography, 2 different systems, 2410
- electrocardiography, mass screening, vectorcardiography, 2412
- europe, review, 2597
- eye, eyeball, model, parameter estimation, 3150
- electrocardiography, heart arrhythmia, heart rate, analog preprocessor, rr interval, r wave watts, 3168
- electronic switch, integrated circuit, analog switch, 3369
- ergometry, telemetry, multichannel transmission, 3646
- electroencephalography, fetus, heart rate, intrauterine pressure, 3705
- fluoroscopy, model, roentgen apparatus, roentgen screen, modulation transfer function, image processing, 833
- fluoroscopy, holography, radiography, image processing, 2419
- fourier transform, algorithm, 2457
- frequency analysis, fourier transform, hardware review, 2469
- flow, convective flow, algorithm, 2484
- fourier transform, deconvolution, 3215
- gait, television, walking, image processing, cdc 1700, 1981
- hematology, leukocyte, pattern recognition, 1623
- hearing, sound, pattern recognition, listener computer cooperation, 1952
- hardware, software, development, review, 2977
- infrared radiation, spectrometry, spectrophotometry, 2209
- information processing, 3665
- indicator dilution curve, mathematic model, pitfalls, impulse response, transfer function, 3772
- liver, model, plasma, thyroxine, compartment model, distribution model, man, 886
- light, multichannel analyzer, 958
- light, algorithm, 2603
- low cost special purpose, 2606
- lung disease, respiration, spirometry, lung function, data processing, 3561
- medical record, psychiatry, cumulative patient register, 10 years, 1194
- monitoring, nursing, hospital management, 1955
- microscopy, image processing, 3 dimensional picture, 2589
- magnetic field, spectrometry, sweep generator, electron spin resonance spectrometry, digital generator, 2689
- monitoring, nursing, patient care, information processing, digital computer, data processing, 3175
- medical record, error, 3178
- model, sea pollution, sound, temperature, 3385
- medical record, retrieval system, data bank, design, 3547
- noise, digital measurement, noise power, 593
- nerve cell potential, visual system, nerve cell network, animal, 876
- nerve cell model, nerve cell, mutually inhibiting neuron, 2489
- nerve cell, nervous system, insect, short preparation life, 3787
- on line computer, signal noise ratio, analog vs digital multiplexer, 1412
- on line computer, process control, 1413
- on line computer, time measurement, time interval, folded ramp technique, wide range, 2182
- process control, process computer, introduction, 242
- printer, selection guide, 1419
- printer, price, performance, 1421
- printer, scintiscanning, display system, 1966
- radiotherapy, 479
- roentgen apparatus, roentgen radiation, 3 dimensional location, 1618
- review, 1797
- review, 1800
- radiography, roentgen radiation, image processing, 2795
- respiration, spirometry, digital read out, life support medical systems corp., 3189
- real time computer, 3210
- spectral analysis, data window, 32
- scintillation camera, serum albumin tc 99m, left heart ventricle ejection, calculation, 362
- speech, review, 756
- speech, speech intensity, 3246
- speech, pattern recognition, real time recognition systems, 3447
- time sharing, satisfaction measurement, 246
- telemetry, terminology, 1415
- temperature measurement, minimum/maximum circuit, 1626
- toshiba tosbac 10e, 2171
- telephone, regulations, 2172
- telephone, errors, 2598
- time sharing, design, 2611
- digital filtering, 1006**
 - blood, catheter, dye dilution, chemotracer, smearing error, 127

- band pass filter, high speed, 681
- band pass filter, computer program, low pass filter, design, 3371
- computer program, 1001
- digital computer, on line computer, initial value method, 1236
- digital computer, design, finite impulse response, 1411
- digital computer, vision, image processing, binary image, 1688
- digital computer, phase lock amplifier, high order discrete loop, 1789
- digital computer, telemetry, modulation code, 1793
- digital computer, frequency analysis, harmonic analysis, recursive method, kalman filtering, 2466
- data processing, telemetry, 3338
- design, 3372
- flat delay, 249
- frequency sampling, 251
- frequency analysis, telemetry, ultrasonics, 2569
- floating point, 3370
- integrated circuit, 2972
- multirate, 250
- pulse response, 2614
- realization, 998
- recursive filter, synthesis, 999
- state space realization, 247
- sampling, random sampling, 682
- sampling, sample rate reduction, 1000
- signal, optimization, 2612
- spectrometry, non damping filter, 2638
- two dimensional filter, 1002
- transient response, impulse response, 1004
- digitalis intoxication**, computer, computer program, digitoxin, digoxin, glucoside, dose kidney function relation, drug dose, 2417
 - computer, electrocardiography, heart ventricle defibrillation, 3169
- digital voltmeter**, analog digital converter, voltmeter, high precision, 2127
 - integrated circuit, fairchild 3814, 2938
 - thermometer, honeywell vumatik, 2536
 - voltmeter, ratiometer, 2126
- digitoxin**, computer, computer program, digoxin, glucoside, digitalis intoxication, dose kidney function relation, drug dose, 2417
- digoxin**, computer, computer program, digitoxin, glucoside, digitalis intoxication, dose kidney function relation, drug dose, 2417
- dilution**, clinical chemistry, dispenser, pipetting, automatic device, 3440
- 2,4 dinitrophenol**, acetylcholine, adrenalin, cell membrane potential, skin, strophanthin, 1717
- diode**, 3639
 - current meter, fiberoscope, telemetry, voltmeter, 2145
 - clock, display system, bcd decoder, 2435
 - current meter, indicator, voltmeter, display system, linear indicator, 3768
 - display system, low power consumption, 1215
 - monochromator, light detection, voltage controlled monochromator, 1216
 - model, semiconductor, large signal model, 1218
 - oximetry, skin, 276
 - photosensitizer, semiconductor, photo cell, direction angle, error, 494
 - pressure transducer, semiconductor, strain gauge transducer, ultraminiature, 2515
 - photodiode, 3008
 - switch, avalanche diode, 166
 - semiconductor, temperature transducer, thermometer, thermostat, 257
- 2,3 diphosphoglyceric acid**, hemoglobin, mathematic model, oxygenation, ph, structure activity relation, 2257
- dipole model**, all or none law, excitation, nerve conduction, nerve fiber membrane, strength duration curve, quantum theory, 1315
 - blood, lung, mathematic model, model, vectorcardiography, electrocardiography, inhomogeneity, 354
 - birefringence, nerve fiber potential, action potential origin, 2306
 - cell membrane permeability, cell membrane potential, erythrocyte, electro tension and torque, 135
 - electric field, electrocardiography, magnetic field, mathematic model, model, 145
 - electrocardiography, heart, addenda to calculation, 1322
 - light, light absorption, model, 3015
 - model, nerve fiber, 84
 - membrane, model, nerve conduction, nerve fiber membrane, rectification curve, squid, 945
 - model, electrocardiography, eccentric quadrupole, 2917
- dipole theory**, fluorescence, molecule, spectrometry, absorption spectroscopy, spectral shift, 2200
- direct current**, alternating current, germanium, resistance thermometer, thermometer, cryogenics, 3384
 - conditioning, electrostimulation, motor cortex, temporal cortex, cat, 1908
 - current meter, digital measurement method, 2125
 - cadmium, copper, phosphorus, electroluminescence, 2673
 - transformation, ratio transformer, 1335
- direct current amplifier**, amplifier, logarithmic amplifier, six decades, 613

- cell potential, cytology, microelectrode, compensation method, 2518
- drift compensation, 169
- differential amplifier, operational amplifier, specification terminology, 620
- directional hearing**, auditory discrimination, auditory masking, binaural hearing, hearing, time discrimination, sound detection, 1692
 - binaural hearing, hearing, sound detection, lateral source, 86
 - binaural hearing, hearing, terminology, 3124
 - diver, diving, hearing, sound detection, underwater hearing, minimum audible angle, underwater, 3600
 - hearing, sound detection, median plane, 2881
 - hearing, information, sound detection, uncertainty relation, 3244
 - hearing, low frequency transient, high frequency transient, 3604
- directional vision**, visual field, goggle device, 1924
- disabled**, chair, 412
- discharge**, eye, infrared radiation, laser, light, radiation hazard, retina, ultraviolet radiation, halogen lamp lesion, lamp, evaluation, 3746
- discrimination**, hearing, sound, complex sound recognition, 788
- discriminatory analysis**, computer program, diagnosis, digital computer, electroencephalography, 467
 - diagnosis, intoxication, barbituric acid derivative, 3163
- disease**, death, genetics, mathematic model, model, population, statistics, disease liability, recurrence risk, 2010
 - epidemiology, infection, model, population, statistics, 3578
- dispenser**, clinical chemistry, dilution, pipetting, automatic device, 3440
- displacement**, body posture, movement, sleep, 1562
 - gravity, lung, lung alveolus, lung expansion, mathematic model, pleura, thorax pressure, finite element displacement analysis, 3672
- displacement transducer**, accelerometer, movement, vibration transducer, calibration, 600
 - angular displacement, 1435
 - capacitance, capacitance transducer, 707
 - capacitance transducer, multiplier, tooth, tooth movement, linearization, 3628
 - force transducer, neuromuscular blocking, 2354
- display**, blood pressure, heart tape recorder, analyser device, 3709
 - computer, computer program, coronary care unit, heart infarction, ischemic heart disease, man machine interaction, midas program, 3186
- display system**, 7 segment, fail safe, 187
 - analog digital converter, dvm use, 2592
 - alpha numeric, review, 2941
 - averaging, voltmeter, digital display, 3297
 - blood pressure, data processing, densitometry, fluoroscopy, heart catheterization, roentgenography, television, patient identification, 2 d representation, 1101
 - biopsy, computer program, data processing, digital computer, pathology, 8000 cases, 3155
 - computer, language, learning, speech, second language learning, 757
 - computer program, model, myoglobin, protein, structure visualization, 1266
 - computer model, digital computer, plotter, hidden line elimination, 1409
 - computer model, task performance, man machine interaction, non compensatory tracking task, 1660
 - cathode ray oscilloscope, penetration color tube, 1990
 - computer memory, plasma display, optical read out, 2128
 - computer memory, echography, tomography, ultrasonics, image processing, color presentation, 2161
 - counter, reaction time, timer, 2315
 - clock, diode, bcd decoder, 2435
 - character, character generator, greek character, cyrillic character, 2534
 - computer memory, 2608
 - computer, computer memory, digital computer, electroencephalography, frequency analysis, pdp 8 i, 3 dim representation, 2824
 - character, digital computer, retrieval system, chinese character, 3555
 - current meter, diode, indicator, voltmeter, linear indicator, 3768
 - digital computer, echography, ultrasonics, 3d display, 431
 - diode, low power consumption, 1215
 - digital computer, graph, interactive display, honeywell ddp 16, 1361
 - digital computer, printer, scintiscanning, 1966
 - design, 2937
 - data processing, flowmeter, scintigraphy, image processing, ratemeter control, 3139
 - echography, holography, ultrasonics, 3 d representation, 427
 - electrofax printing, 505
 - electrocardiography, heart rate, tape recording, 971
 - gas discharge, 185
 - hearing, model, man machine interaction, 1245
 - histogram, liquid crystal, multibar display, 2437
 - hearing, task performance, vision, man machine interaction, audio visual display, 3218
 - holography, 3296
 - information theory, memory, model, task performance, vision, man machine interaction, 42
 - infrared radiation, thermography, 2588
 - integrated circuit, review, 3298
 - liquid crystal, matrix address, 184

- laser, television, projector, 1776
- man machine interaction, auditory display, 98
- model, man machine interaction, multi parameter model, 1247
- stereoscopic vision, 3 dimensional system, 1578
- distance**, distance transducer, 690
- distance meter**, modulated light, visual system, 2981
- distance transducer**, distance, 690
- distortion**, hearing, monaural hearing, 88
 - hearing, monaural hearing, phase discrimination, $f_2 - f_1$, $2f_1 - f_2$, 89
 - optical correlator, 35
- diver**, body temperature, heart rate, respiration, telemetry, transmitter, ultrasonics, multichannel system, 1772
 - directional hearing, diving, hearing, sound detection, underwater hearing, minimum audible angle, underwater, 3600
- divider**, analog computer, multiplier, ad530, 1369
 - binary, 1783
 - counter, adjustable divider, voltage controlled divider, 2607
- diving**, analog computer, computer model, decompression, model, 2763
 - breathing mechanics, electromyography, sport, telemetry, 3650
 - directional hearing, diver, hearing, sound detection, underwater hearing, minimum audible angle, underwater, 3600
 - photography, underwater photography, 1403
 - phonocardiography, telemetry, electrocardiography, pressure chamber, pressure transient, 6 channel system, 1767
 - speech, 1102
- documentation**, bibliography, computer, retrieval, literature, effectivity, 480
 - medical record, strabismus, 3177
- doppler effect**, analysis, 685
 - artery flow, flowmeter, vein flow, 1083
 - artery flow, capillary flow, retina artery, rabbit, 1707
 - artery flow, electrocardiography, telemetry, velocity profiles, unexposed, exposed arteries, 3333
 - blood pressure, indirect percutaneous measurement, 336
 - blood pressure, brachial artery, posterior tibial artery, measurements, 2734
 - blood, bubble, echography, 3704
 - echocardiography, echography, fetus, heart rate, monitoring, 1524
 - echography, sound, ultrasonics, scattering, analysis, 3603
 - flowmeter, laser, flow, flow visualization, 1778
 - laser, flow, doppler echo, 3392
- dorsal spinocerebellar tract**, decerebration, locomotion, muscle contraction, nerve cell, 2766
 - nerve cell potential, spinocerebellar tract, walking, cat, 3737
- dose kidney function relation**, computer, computer program, digitoxin, digoxin, glucoside, digitalis intoxication, drug dose, 2417
- dose response**, blood pressure, halothane, systems analysis, dog, 350
 - computer, pharmacology, smooth muscle, on line computer, 2826
 - granulocyte, macrophage, model, population, data processing, model, dose response curve, colony stimulating factor, 2845
 - population, statistics, mixed population, 2012
- dosimetry**, 159
 - accelerator, beta radiation, radiation protection, radiotherapy, roentgen radiation, safety aspects, 156
 - amplifier, current meter, electron microscopy, logarithmic amplifier, picoammeter, 3286
 - beta detection, beta radiation, gamma detection, gamma radiation, semiconductor detector, li si, implantable dosimeter, 316
 - badge dosimeter, neutron radiation, thermoluminescence, thermoluminescence dosimeter, 1137
 - beta radiation, radiotherapy, roentgen radiation, conization chamber, comparison, essen umea, villejuif umea, 1144
 - bone density, photon, measurement, man, 1434
 - bone, cobalt 60, electron spin resonance, gamma radiation, powder, radiotherapy, thermoluminescence, bovine, deproteinized bone powder, 1589
 - cosmic radiation, gamma radiation, back ground reduction, 311
 - computer program, radiotherapy, radium, applicator, ernst applicator, dec pdp8, 477
 - cobalt 60, computer, depth dose, calibration chart, 478
 - calorimetry, roentgen radiation, combination calorimeter, 730
 - cobalt 60, gamma radiation, radiotherapy, farmer secondary standard range extension, 831
 - calorimetry, roentgen radiation, depth dose calorimeter, flash roentgen radiation, 837
 - cobalt 60, computer, process control, radiotherapy, electronic calculator, 842
 - chromosome, lymphocyte, roentgen radiation, chromosomal aberration, 1081
 - computer, gamma radiation, radiotherapy, sievert integral, recursive formula, 1606
 - computer, gamma radiation, roentgen dose distribution, roentgen radiation, 1616
 - computer program, radiology, radiotherapy, standardization, 2815
 - computer program, radiography, radiotherapy, radcomp program, 2816
 - computer, radiotherapy, roentgen film, 3165
 - cobalt 60, filter, gamma radiation, lead, radiotherapy, uterine cervix, uterine cervix carcinoma, cancer, 3514

- depth dose, muscle, neutron radiation, phantom, radiotherapy, tissue equivalent, 1145
- digital computer, roentgen radiation, 3176
- environmental health, lithium fluoride dosimeter, thermoluminescence, nuclear instrumentation, nuclear radiation, caso4:dy, 1496
- electret, microphone, piezoelectric transducer, voltmeter, electret device, 1991
- gamma radiation, linear energy transfer, lithium fluoride dosimeter, model, roentgen radiation, thermoluminescence, non linearity, 304
- gamma radiation, neutron radiation, radiotherapy, thermoluminescence, ca so₄ tm, 834
- gamma radiation, glow curve, automatic measurement, 3430
- heavy particle radiation, virus, enzyme, 709
- linear energy transfer, model, radiation hazard, mean quality factor measurement, 158
- lithium fluoride dosimeter, thermoluminescence dosimeter, critical observation, 305
- lithium fluoride dosimeter, glow peak growth, 430
- lithium fluoride, manganese, thermoluminescence, activation by manganese, 2700
- linear accelerator, radiotherapy, roentgen radiation, conization chamber, 3759
- neutron radiation, scintillator, plastic scintillator, array, design, 1-450 mev, 319
- neutron radiation, scintillator, plastic scintillator, calibration, 739
- neutron radiation, 1507
- neutron radiation, thermoluminescence, 6 lif, 7 lif, response, 3034
- phantom, radiology, roentgen radiation, image processing, 1146
- proton radiation, thermoluminescence, caso₄ mn phosphorus, 3032
- radiotherapy, radiation absorption, numerical evaluation, 2100
- solid state effect, 1594
- succinic acid, dicarboxylic acid, mixed radiation, 2641
- thermoluminescence, 1136
- double t filter**, active filter, notch filter, twin t, application, 606
- dow formule**, computer, fick method, heart output, dye, 27 cases, hamilton method, 869
- drainage**, irrigation, abscess drainage, simple construction, 591
- drill**, dentistry, electric motor, siemens micromotor, experience, 3534
 - neurosurgery, skull, hand drill, 2384
 - surgery, hip prosthesis, hohmann modification for prosthesis insertion, 1155
- drinking**, blindness, 3744
- driver**, artery pulse, carotid artery, electroencephalography, pneumography, telemetry, workload, electrocardiography, 3655
 - schmitt trigger, 193
- driver licence**, deafness, hearing, hypacusis, traffic, evoked acoustic nerve response, 411
 - deafness, hearing, hypacusis, traffic, vestibular system, evoked acoustic nerve response, 3739
- droplet**, droplet generator, electronically controlled, 1072
 - photography, moving particle, 1398
- droplet generator**, droplet, electronically controlled, 1072
 - highly uniform drops, 3441
- drop recorder**, vein blood flow, pneumatic amplification, 2740
- drug**, aminoacid, chromatography, steroid hormone, thin layer chromatography, vitamin, 3380
 - behavior, motor activity, analyzing device, mouse, 1899
 - blood, cholesterol, model, administration control, 3258
 - computer program, hormone, 1168
 - computer program, digital computer, model, pharmacokinetics, 1953
 - computer, hospital, laboratory, drug analysis, 1957
 - data processing, digital computer, hodgkin disease, medical record, therapy, advanced disease, 33 cases, survival, prognosis, 2811
 - electroencephalography, frequency analysis, pharmacology, digital output, 2912
- drug**, model, statistics, kodlin standish model, 3693
- drug absorption**, anesthetic equipment, cyclopropane, ether, halothane, methoxyflurane, rubber, 372
- drug analysis**, aminoacid, analyzer, computer program, digital computer, 2402
 - computer, drug, hospital, laboratory, 1957
- drug distribution**, analog computer, blood pressure, brain blood flow, computer model, halothane, lung alveolus, in vitro study, 434
- drug dose**, computer, computer program, digitoxin, digoxin, glucoside, digitalis intoxication, dose kidney function relation, 2417
- drug resistance**, antibiotic agent, bacterium, computer, computer program, drug sensitivity, 3771
- drug sensitivity**, antibiotic agent, bacterium, computer, computer program, drug resistance, 3771
- drug synthesis**, radioisotope, euair, 3442
- drug toxicity**, computer, data processing, toxicology, retrieval, 1958
- duodenum**, intestine motility, recording method, ral, 2250
- dust**, coal mining, industrial health service, monitoring, mass monitor, 1890
 - microscopy, scanning electron microscopy, 656
- dye**, computer, dow formule, fick method, heart output, 27 cases, hamilton method, 869
- dye dilution**, blood, catheter, digital filtering, chemotracer, smearing error, 127
- dye dilution curve**, blood flow, densitometry, image intensifier, roentgenography, television, flexible window size, diaphragm, 1588
 - blood flow, blood volume, computer program, mathematic model, radiotracer, flow measurement, third mixing chamber, 1628
 - circulation, circulation model, model, radiotracer, compartment model, chemotracer, 1302

- heart output, compartment model, fast area estimation, 1092
- heart output, compartment model, 2278
- indocyanin green, calibration, 3464
- dynamometry**, muscle contraction, muscle strength, muscle isometric strength, isotonic contraction, 1579
- dyslexia**, computer program, digital computer, electroencephalography, frequency analysis, 12 children, 13 normals, 3552
- ear**, ear drum, 3502
- ear dominance**, binaural hearing, brain, dichotic listening, hearing, hemispheric dominance, speech, verbal stimuli, non verbal stimuli, 2877
- ear drum**, averaging, hearing, holography, vibration, cat, time averaged holography, 92
 - analog model, external ear, model, 3235
 - basement membrane, hearing, vibration, mossbauer effect, amplitude, phase, monkey, 99
 - conduction deafness, deafness, hearing, review, 1570
 - ear, 3502
 - holography, photography, vibration, 1684
 - middle ear muscle, reflex, tensor tympani muscle, acoustic reflex, 2056
- ear lobe**, deafness, hearing aid, frequency characteristic, open mold, 1119
- early receptor potential**, death, electroretinography, insect, 2339
- ear protection**, hearing, ear trauma, 30 protectors, 2886
- earthquake**, model, forecast, 1999
- ear trauma**, hearing, ear protection, 30 protectors, 2886
 - hearing aid, perception deafness, 3123
 - hearing, music, sound, sound level measurement, rock and roll, 3747
 - sound detection, 2464
- echocardiography**, aorta, heart output, heart muscle contractility, non invasive measurement, 1874
 - artery pulse, carotid artery, peripheral vascular resistance, determination by noninvasive method, 1884
 - echography, fetus, heart rate, monitoring, doppler effect, 1524
 - heart movement, functional interpretation, sonocardiokinetogram, modified method, 2268
- echoencephalography**, computer, automatic midline system, 1961
 - echography, fetus, heart rate, monitoring, doppler effect, 1524
 - intracranial midline shift detection, dog, 1844
 - new system, 1912
 - scanning, method, dog, 2234
- echography**, breast, obstetrics, ophthalmology, ultrasonics, improvement, 840
 - blood, bubble, doppler effect, 3704
 - cephalometry, fetus, scanning, 741
 - computer, digital computer, 1204
 - computer memory, tomography, ultrasonics, display system, image processing, color presentation, 2161
 - digital computer, ultrasonics, display system, 3d display, 431
 - echocardiography, fetus, heart rate, monitoring, doppler effect, 1524
 - echooculography, eye, transducer manipulation, 1590
 - echoencephalography, encephalopathy, microphone, sector scanning, 2317
 - holography, ultrasonics, display system, 3 d representation, 427
 - holography, angiocardiography, 1930
 - joint, mandible, 3526
 - orbit, ultrasonics, isodensitometric curve, 403
 - pitfalls, 328
 - registration, errors, 2236
 - sound, ultrasonics, doppler effect, scattering, analysis, 3603
 - ultrasonics, review, 841
 - ultrasonics, image processing, 1142
 - ultrasonics, tissue interface, 1591
 - ultrasonics, scanning echography, 2368
 - ultrasonics, image processing, aberration, scanning imaging system, 2709
 - ultrasonics, transmitter receiver coupling, 3436
 - velocity, attenuation, 2235
- echolocation**, feeding behavior, food, dolphin, tracking frequency, 2053
- echooculography**, b scan development, 3435
 - echography, eye, transducer manipulation, 1590
 - method, 322
- ecology**, air pollution, environmental health, sociology, water pollution, engineering aspect, 507
 - applicability restrictions, 890
 - fertility, mathematic model, model, population, fertility distribution, 2027
 - information theory, statistics, kernel identification, 1848
 - model, population, statistics, age dependent branching, 22
 - model, 1246
 - model, nutrient, nutrient conserving, man, 2179
 - nonlinear system, cross correlation, volterra kernel, 1998
- economy**, computer, digital computer, electrocardiography, monitoring, 1082
 - experimental animal, 2827

- sociology, system analysis, 508
- edema**, aorta flow, energy transfer, heart failure, heart work, left heart ventricle, mathematic model, 1094
 - paw edema, measurement device, small animal, 368
- edetic acid cr 51**, 4 aminohippuric acid, radioisotope, iodohippurate sodium i 131, clearance, 3516
- education**, analog computer, process control, 2164
 - computer, hematology, anemia, differential diagnosis, 1163
 - computer, genetics, 1203
 - videorecording, audiovisual system, long playing disc, 3660
- ehrlich ascites tumor**, cancer cell, cell, conductivity, cell conductivity, 704
 - cell membrane capacitance, cell membrane potential, cell membrane resistance, potassium, 1712
- ehrlich ascites tumor cell**, ameba, cell membrane, ultrasonics, microstreaming, mouse, 325
- elasticity**, aorta, mathematic model, nonlinear properties, dog, 543
 - aorta flow, aorta pressure, artery, artery pulse, blood vessel, dog, influence on wave propagation, 3593
 - artery, artery wall, model, noradrenalin, smooth muscle, viscosity, 3594
 - adenosine diphosphate, adenosine triphosphate, flagella, spermatozoon, stiffness, bull, 3595
 - brain, mathematic model, viscoelasticity, in vivo, 81
 - bone, ultrasonics, bovine, fresh and dried bone, 323
 - bone, calcium, femur, growth, tibia, vibration, rat, mechanical vibration, 823
 - blood vessel, mathematic model, shear stress, orthotropic oval vessel, 1304
 - blood, viscosity, viscoelasticity, 1522
 - brain, mathematic model, viscosity, relaxation response in vivo, 1561
 - biomechanics, blood vessel, hemodynamics, model, 1674
 - bone, model, viscosity, bovine bone, 3238
 - bone, cortical bone, stress, mechanical testing, 3590
 - chorda tendinea, heart muscle, heart papillary muscle, heart valve, viscosity, mechanical properties, man, 1275
 - capillary, serum, viscosity, measurement, 1672
 - centrifuge, molecule, polyatomic molecule, centrifugal stretching, 3373
 - erythrocyte membrane, 2859
 - fiberscope, 3375
 - halide, apatite, 492
 - heart muscle, model, hill model, heart muscle contraction, heart muscle contractility, cat, quick release 1277
 - heart, heart ventricle pressure, heart ventricle volume, mathematic model, heart muscle contractility, force velocity relation, 2043
 - heart model, heart ventricle, heart left ventricle, mathematic model, heart left ventricle enddiastolic volume, 2869
 - model, tissue, 1280
 - model, muscle fiber, sarcolemma, semitendinous muscle, anisotropic elastic properties, frog, 2359
- elastomer**, assisted circulation, blood clotting, thrombogenesis, aorta balloon pump, pig, dog, in vitro, 3
 - blood clotting, thrombocyte, thrombogenesis, aorta balloon pump, 80 cases, 2
- elbow**, motoneuron, movement, spinal cord, tendon reflex, 1559
 - voluntary movement, bandwidth, 416
- electret**, dosimetry, microphone, piezoelectric transducer, voltmeter, electret device, 1991
 - microphone, performance, construction, 9
 - microphone, transducer, properties, vateria indica, 2514
- electric accident**, electrocardiography, interference reduction, monitoring, safety, test program, safety, interference, 2378
- electric accident**, hospital, large hospital, 42 month register, usa, 2710
- electric accident**, hospital, monitoring, 3145
- electric accident**, ophthalmology, 3497
- electric accident**, power supply, performance, 2509
- electric conductance**, recording, wheatstone bridge, chemical kinetics, 3568
- electric field**, 1033
 - body, electrocardiography, mathematic model, heart electric field, polynomial function, 2079
 - behavior, food intake, growth, magnetic field, motor activity, young chicken, 2642
 - computer, computer model, electroencephalography, skull, intercranial field, inhomogeneity, 792
 - cable, electrocorticography, mathematic model, nerve fiber potential, pyramidal nerve cell, polarization effect of ecog, 1723
 - cell membrane conductivity, cell membrane resistance, cell potential, mathematic model, extracellular stimulation, 3622
 - electrocardiography, magnetic field, mathematic model, model, dipole model, 145
 - electrocardiography, heart, mathematic model, generators, 3069
 - fish, heart rate, telemetry, water temperature, noncontact sensing, trout, 3334
 - high voltage line, 1424
 - infrared spectrometry, nerve conduction, nerve fiber, 397
 - microwave radiation, radiation hazard, radiation monitoring, accuracy, 2214
- electric filter**, active filter, chebyshev filter, synthesis, 1354
 - active filter, modulation transfer function, analysis, 3294
 - basement membrane, cochlea microphonic potential, model, electric network, 3243
 - computer, design, 175
 - evoked cortical response, evoked visual response, phase detection, signal processing, phase distortion, 2117

- infrared radiation, thermography, signal noise ratio, modulation noise, 986
- information theory, signal detection, signal noise ratio, multichannel analyzer, 1658
- process control, constant gain, kalman filter, 3584
- resistance capacitance active filter, transient response, analysis, 621
- selective amplifier, telemetry, ceramic filter, 10 mhz, 178
- sampling, signal processing, signal reconstruction, 1252
- electric hazard**, artifact, electrocardiography, electroencephalography, interference suppression, telemetry, 1763
 - electric switch, pneumatic interface for electrical device, 1516
 - electricity, intensive care, 1729
 - housewife, principles, standards, 1224
 - thyristor, insulator, non destructive method, 954
- electric interference**, alternating current, electrocardiography, 60 hz interference, 3471
 - interference suppression, multivibrator, signal noise ratio, noise immunity, review, 2544
 - phase modulator, telemetry, 3337
- electricity**, blood, blood flow, frequency changes, 1079
 - biophysics, bone, face, morphogenesis, skeleton, skull, 3209
 - electric shock, heart ventricle fibrillation, current density, dog, current density, man, 3469
 - intensive care, electric hazard, 1729
- electric motor**, amplifier, synchronous motor conversion, 623
 - amplifier, 3632
 - battery, power supply, converter, 2551
 - commutator wear, brush wear, 500
 - dc motor, driving system, 268
 - dentistry, dental laboratory, universal starter, switch, 849
 - dentistry, drill, siemens micromotor, experience, 3534
 - operational amplifier, power amplifier, 3623
 - power supply, thyristor, ac motor control, 976
 - power amplifier, review, 1338
 - power amplifier, booster, 1339
 - power amplifier, permanent magnet dc motor, constant speed drive, 2835
 - strip chart recorder, linear motor, 1745
- electric organ**, discharge recording, gnathonemus, 148
- electric power**, alternating current, power measurement, 3 voltmeter method, 2124
 - bolometer, power measurement, electromagnetic radiation, millimeter wave, 2212
 - calorimetry, power measurement, frequency range, 2106
 - power measurement, six port coupler, 2105
- electric prosthesis**, hand prosthesis, influenza, powered prosthesis, feedback system, 2355
- electric shock**, electricity, heart ventricle fibrillation, current density, dog, current density, man, 3469
 - scrambling device, solid state, 3730
- electric switch**, electric hazard, pneumatic interface for electrical device, 1516
 - touch, touch switch, 502
- electroanesthesia**, averaging, electroretinography, evoked response, signal noise ratio, on line circuit, 398
 - dentistry, device, electric anesthesia, 3727
- electrocardiography**, artificial heart pacemaker, digital electrocardiograph, 360
 - amnion, fetus, heart rate, monitoring, pressure, review, technic, 436
 - analog computer, heart muscle contractility, measuring device, 767
 - analog computer, atropine, averaging, heart atrium, heart block, 993
 - artifact, electroencephalography, interference suppression, telemetry, electric hazard, 1763
- electrocardiography**, aviation, blood pressure, heart rate, telemetry, airplane crew, multichannel system, 2147
- electrocardiography**, analog computer, heart muscle, isolated heart, function test, automated analysis, 2425
 - analog computer, heart arrhythmia, heart fibrillation, monitoring, anomalous beat detection, 3171
 - aorta flow, aorta pressure, artery pulse, blood pressure, digital computer, heart output, heart ventricle ejection, dog, 3187
 - angiography, computer, heart catheterization, monitoring, hewlett packard, 3188
 - auditory masking, hearing, heart rate, heart sound, noise, 100 hz stimulus, valve closure, 3242
- electrocardiography**, ambulance, breathing rate, sport, heart tape recorder, telemetry, recording, double channel telemetry, 3328
- electrocardiography**, artery flow, telemetry, doppler effect, velocity profiles, unexposed, exposed arteries, 3333
 - artifact reduction, electrode, movement, electrode, drye, 3463
 - artificial heart, assisted circulation, pump, automatic regulation, heart synchrony, 3470
- electrocardiography**, alternating current, electric interference, 60 hz interference, 3471
- electrocardiography**, artery pulse, pulse deficient monitoring, automatic detection, 3553
- electrocardiography**, artery pulse, carotid artery, driver, electroencephalography, pneumography, telemetry workload, 3655
- electrocardiography**, artifact, artifact reduction, cable, electroencephalography, electromyography, transformation, 3674
 - blood pressure, diastolic blood pressure, public health, screening, systolic blood pressure, cuff method, automation, 124
 - blood pressure, continuous recording, unrestricted man, device, 352
- electrocardiography**, blood, lung, mathematic model, model, vectorcardiography, dipole model,

inhomogeneity, 354

electrocardiography, blood pressure, circadian rhythm, telemetry, right heart ventricle pressure, implantation, left heart ventricle pressure, implantable, monkey, 1098

- blood pressure, breathing rate, digital computer, heart arrhythmia, heart output, monitoring, small computer, 1188

electrocardiography, birth, fetus, telemetry, 1768

electrocardiography, blood pressure, metallurgy, occupational medicine, rheology, telemetry, 1769

electrocardiography, blood pressure, digital computer, electroencephalography, 1962

electrocardiography, body, electric field, mathematic model, heart electric field, polynomial function, 2079

- burn, electrocoagulation, electrode, electrosurgery, electrode located burns, 2264
- body temperature, electroencephalography, neurotransmitter, telemetry, implantation, rat, 2562
- breathing rate, electroencephalography, electromyography, electrooculography, hybrid computer, sleep, automatic analysis, 3191

electrocardiography, blood flow, electroencephalography, electromagnetic flowmeter, flowmeter, stress, telemetry, neurotransmitter, implantation, animal, 3321

electrocardiography, body temperature, electroencephalography, telemetry, rat, multichannel transmission, 3324

- blood pressure, body temperature, heart disease, phonocardiography, respiration, telemetry, neurotransmitter, multichannel system, 3330
- blood flow, heart rate, rheology, telemetry, thorax, 3656
- computer, diagnosis, validity, 349
- computer program, diagnosis, heart arrhythmia, heart rate, electrocardiography, 472

electrocardiography, computer program, diagnosis, electrocardiography, heart arrhythmia, heart rate, 472

electrocardiography, computer, telemetry, telephone, telephone telemetry, low cost, 473

- computer, gynecology, medical record, mark sense form, 481
- computer program, diagnosis, digital computer, heart arrhythmia, 859
- computer, mass screening, 860
- computer, digital computer, economy, monitoring, 1082
- computer, heart arrhythmia, heart rate, mathematic model, monitoring, clinical use, 1185
- computer, data processing, phonocardiography, 1186
- computer, vectorcardiography, mathematical definition, 1205
- computer, exercise, exercise test, rest, 1206

electrocardiography, computer, 1956

electrocardiography, classification and coding, 2271

- computer, heart arrhythmia, 2408
- computer, heart atrioventricular block, heart disease, heart infarction, 2409
- computer, quantitative, critical appraisal, 2411

electrocardiography, computer program, digital computer, 1435 cases, multi lead recording, 2413

electrocardiography, computer program, digital computer, comparative analysis, 2414

- coronary care unit, digital computer, monitoring, 2416
- computer, heart arrhythmia, heart ventricle, lidocaine, monitoring, ouabain, phenytoin, mouse, 2801
- computer, computer program, vectorcardiography, 3166
- computer, diagnosis, mass screening, 3167
- computer, heart ventricle defibrillation, digitalis intoxication, 3169
- computer, diagnosis, 3170
- computer, computer program, diagnosis, multigroup diagnosis, 3173
- computer, heart arrhythmia, analysis, 3174
- clothing, electromyography, environmental health, ergometry, heart rate, telemetry, thermogenesis, work, 3327
- carotid artery pulse, exercise, systole, heart left ventricle ejection time, atraumatic method, 3472
- computer, comment, 3548
- computer program, program selection, 3549
- computer program, minimal performance requirements, 3550
- computer program, 6162 ecg's, mayo ibm analysis program, 3551
- computer, vectorcardiography, 3777
- computer, automatic analysis, 3778

electrocardiography, diving, phonocardiography, telemetry, pressure chamber, pressure transient, 6 channel system, 1767

electrocardiography, digital computer, 2 different systems, 2410

- digital computer, mass screening, vectorcardiography, 2412
- data processing, digital computer, 2415
- data processing, digital computer, hospital, medical record, clinical laboratory, 3160
- digital computer, heart arrhythmia, heart rate, analog preprocessor, rr interval, r wave watts, 3168
- diagnosis, digital computer, accuracy in volunteers, 3172

electrocardiography, death, sudden death, heart tape recorder, telemetry, 3326

electrocardiography, electric field, magnetic field, mathematic model, model, dipole model, 145

- electrode, exercise, sport, spray electrode, 271
- exercise, heart rate, cardiometer, 1084
- electrode, insulated electrode, 1100
- electroencephalography, telemetry, transmitter, implantation, 1756

electrocardiography, electroencephalography, monitoring, telemetry, telemetry regulations, multichannel telemetry, 1762

electrocardiography, electroencephalography, hospital, interference suppression, magnetic field,

- roentgen equipment, elevator, 2238
- electric accident, interference reduction, monitoring, safety, test program, safety, interference, 2378
- exercise, phonocardiography, heart tape recorder, test, voice, portable device, magnetic tape recorder, 3061
- electric field, heart, mathematic model, generators, 3069
- electroencephalography, ergometry, stress, telemetry, man machine interaction, 3645
- heart arrhythmia, mathematic model, 367
- heart arrhythmia, monitoring, scattergram, 845
- heart muscle potential, mathematic model, genesis model, 934
- heart block, mathematic model, wenckebach period, 943
- heart rate, tape recording, display system, 971
- heart, dipole model, addenda to calculation, 1322
- heart electric field, structure of elementary generation, 1526
- heart rate, normal subjects, pr interval, 1529
- heart muscle conduction system, heart muscle potential, intracardiac electrocardiography, vagus nerve, dog, 2266
- heart muscle conduction system, mathematic model, heart atrioventricular conduction, rat, model, 2492
- heart arrhythmia, sport, telemetry, 3649
- electrocardiography**, inverse electrocardiography, quasi linearization, 937
- model, vectorcardiography, body shape correction, 126
- model, inverse electrocardiography, parameters, 144
- monitoring, signal processing, 439
- modulator, telemetry, transmitter, 1770
- electrocardiography**, model, r wave, point process, 2081
- electrocardiography**, model, dipole model, eccentric quadrupole, 2917
- electrocardiography**, recorder method, fish, 1887
- telemetry, telephone, portable, 221
- electrocardiography**, telemetry, neurotransmitter, implantation, rat, implantable transmitter, 3325
- telemetry, optical system, 3339
- telemetry, work, child, adolescent, 3653
- electrocardiography**, vectorcardiography, 2082
- electrocoagulation**, burn, electrocardiography, electrode, electrosurgery, electrode located burns, 2264
- cingulate gyrus, frontal cortex, neurosis, case report, 2316
- electrode, homeostasis, 592
- electrode, 3762
- electrocorticography**, brain cortex, electroencephalography, mathematic model, nerve cell potential, synchronization analysis, 1906
- cable, electric field, mathematic model, nerve fiber potential, pyramidal nerve cell, polarization effect of ecog, 1723
- electrode**, artificial heart pacemaker, heart pacing, 5 years experience, glasgow, 359
- artificial heart pacemaker, heart muscle, heart pacing, transvenous electrode, 369
- artificial heart pacemaker, endocardial electrode, dislocation reduction, 1534
- artificial heart pacemaker, endocardium, epicardium, complication, endocardial electrode vs pericardial electrode, 1538
- amplifier, miniature monolithic amplifier, 2532
- artifact reduction, electrocardiography, movement, electrode, drye, 3463
- brain depth stimulation, 1886
- blood gas, blood oxygen, blood ph, computer program, oxyhemoglobin, 2066
- burn, electrocardiography, electrocoagulation, electrosurgery, electrode located burns, 2264
- brain depth recording, brain steady potential, lateral geniculate body, lateral geniculate body nerve cell potential, simple electrode configuration, 3100
- brain depth recording, microelectrode, stereotaxic implantation, design, use in man, 3486
- cell membrane potential, microelectrode, voltage clamp, 140
- catheter electrode, epicardium, heart muscle potential, dog, 1867
- cochlea microphonic potential, surface electrode measurement, 3117
- electrolyte, operational amplifier, 182
- electrocardiography, exercise, sport, spray electrode, 271
- electroencephalography, gold, iridium, platinum, metal, palladium, rhodium, comparison, 392
- electrocoagulation, homeostasis, 592
- electromyography, motor unit, motor unit potential, quadricollar electrode, 794
- electromyography, 824
- electrocardiography, insulated electrode, 1100
- electromyography, silastic, chronic lead, bat, 1132
- electrooculography, eye movement, 1925
- electrode paste, methyl paraben, skin defect, skin reaction, 8 electrode jellies, 3394
- electrocoagulation, 3762
- harness, connector plug, rat, 1565
- nerve cell potential, compound powder electrode, 584
- nerve conduction, nerve fiber potential, close bipolar electrode, toad, 2073
- nerve cell, statistics, time delay, phase shift analysis, 2914
- thermistor, stereotaxic surgery, brain depth stimulation, 3492
- visual cortex, brain depth stimulation, engineering feasibility study, 391
- electrode impedance**, electromyography, skin, surface emg measurement, 2363

- electrode implantation, brain depth recording, clamp, head, restraining device, stereotaxic implantation, rat, 1552
- brain depth recording, stereotaxic implantation, position calculation, 1556
- brain depth recording, lateral geniculate body, stereotaxic implantation, thalamus, 1880
- electrode paste, electrode, methyl paraben, skin defect, skin reaction, 8 electrode jellies, 3394
- electrode resistance, burn, pain, resistance measurement, patient discomfort, 3105
 - micropipette, linear voltage control, 274
 - microelectrode, meter, 2987
- electroencephalography, audiometry, averaging, evoked response, evoked response audiometry, optical method, 874
 - audiometry, computer model, digital computer, filter, evoked response audiometry, matched filter, 938
 - alpha rhythm, central nervous system, epilepsy, excitation, inhibition, mathematic model, nerve cell network, 940
 - alpha rhythm, behavior, conditioning, consciousness, biofeedback, mapping method, 1114
 - artifact, electrocardiography, interference suppression, telemetry, electric hazard, 1763
 - amygdaloid nucleus, olfactory bulb, spike, telemetry, rabbit, 1765
 - alpha rhythm, computer model, model, nerve cell potential, nerve cell, 2080
 - artifact, artifact reduction, computer, electrooculography, eye movement, on line method, 2320
 - anesthesia, aorta flow, aorta pressure, artery pulse, blood pressure, halothane, heart muscle oxygen consumption, heart output, heart rate, 2423
 - artifact reduction, electromyography, emg artifact reduction, 3106
 - averaging, signal noise ratio, improvement possibilities, 3485
 - artery pulse, carotid artery, driver, pneumography, telemetry, workload, electrocardiography, 3655
 - artifact, artifact reduction, cable, electrocardiography, electromyography, transformation, 3674
 - brain steady potential, electrooculography, electroretinography, glia cell, nerve cell potential, ph, sodium, 1708
 - behavior, cerebrovascular disease, frequency analysis, stress, 1726
 - brain cortex, electrocorticography, mathematic model, nerve cell potential, synchronization analysis, 1906
 - blood pressure, digital computer, electrocardiography, 1962
 - brain cortex, nerve cell potential, oscillatory processes, rabbit, 2334
 - body temperature, electrocardiography, neurotransmitter, telemetry, implantation, rat, 2562
 - brain cortex, epilepsy, motivation, convulsion, 3108
 - breathing rate, electrocardiography, electromyography, electrooculography, hybrid computer, sleep, automatic analysis, 3191
 - blood flow, electromagnetic flowmeter, flowmeter, stress, telemetry, neurotransmitter, electrocardiography, implantation, animal, 3321
 - body temperature, electromyography, oxygen tension, telemetry, neurotransmitter, multichannel transmitter, 3322
 - body temperature, electrocardiography, telemetry, rat, multichannel transmission, 3324
 - character, computer, strip chart recorder, character generation, 389
 - computer program, diagnosis, digital computer, discriminatory analysis, 467
 - computer, computer model, electric field, skull, intercranial field, inhomogeneity, 792
 - computer, hybrid computer, sharp transient detection, 861
 - computer, spike wave, detection, quantification, 862
 - circadian rhythm, delta rhythm, rem sleep, sleep, damped rhythm, 2086
 - computer, computer memory, digital computer, frequency analysis, display system, pdp 8 i, 3 dim representation, 2824
 - computer model, model, rem sleep, sleep, model vs rat, 3484
 - computer program, digital computer, dyslexia, frequency analysis, 12 children, 13 normals, 3552
 - computer, electromyography, hybrid computer, rem sleep, sleep, 3562
 - computer, signal noise ratio, zero cross analysis, 3779
 - computer, epilepsy, spike, automatic spike estimation, 3780
 - digital computer, frequency analysis, haan algorithm, 393
 - data processing, ink recorder, 586
 - digital computer, on line correlator, 1187
 - digital computer, classification, 1211
 - digital computer, schizophrenia, sleep, all night sleep, 1963
 - drug, frequency analysis, pharmacology, digital output, 2912
 - data reduction, sleep, automatic analysis, 3487
 - digital computer, fetus, heart rate, intrauterine pressure, 3705
 - electrode, gold, iridium, platinum, metal, palladium, rhodium, comparison, 392
 - evoked cortical response, evoked visual response, hemiplegia, adults, 410
 - electromyography, integrator, 1110
 - electrocardiography, telemetry, transmitter, implantation, 1756
 - electrocardiography, hospital, interference suppression, magnetic field, roentgen equipment, elevator, 2238
 - evoked hippocampus response, evoked acoustic nerve response, hippocampus potential, cat, 2312
 - evoked response audiometry, procedure, children, adults, electronencephalic sensitivity, 3092
 - electroretinography, photodiode, photostimulation, 3099
 - evoked cortical response, eye, motivation, photostimulation, task performance, age, 3102
 - epilepsy, telemetry, long term eeg, 3323
 - electrocardiography, ergometry, stress, telemetry, man machine interaction, 3645

- evoked cortical response, evoked visual response, frequency analysis, analyzing technique comparison, 3733
- frequency analysis, fourier transform, optical method, 2085
- frequency analysis, time domain descriptor, 2323
- frequency analysis, sharpness quantification, semiautomatic, 3616
- frequency analysis, graphic elements, volunteers, 3723
- factory, 26 cases, 3728
- frequency analysis, coherent optical processing, 3732
- health service, telephone telemetry, leipzig area, 3726
- linear system, nonperiodic undamped oscillation, 1316
- model, sleep, wakefulness, 1715
- monitoring, telemetry, electrocardiography, telemetry regulations, multichannel telemetry, 1762
- model, sleep, damped oscillatory phenomenon, 2329
- magnetic field, rabbit, 2758
- nerve cell potential, spike, telemetry, transmitter, nervous system, implantation, frequency modulation, implantable transmitter, 1757
- photostimulation, alpha adrenergic receptor blocking, 1907
- photic driving, stroboscopy, automatic estimation, 2305
- pattern recognition, periodic waveform, clustering technique, 2919
- recognition index, 1557
- signal detection, speech, overlapping wavelet, 1263
- spectrum, automatic classification, 2905
- electrokinesia**, blood, cell kinetics, erythrocyte, lymphocyte, thrombocyte, 3670
- electroluminescence**, alternating current, cadmium, copper, phosphorus, cds cu powder, 2625
 - cadmium, copper, direct current, phosphorus, 2673
- electrolyte**, cell membrane permeability, general equation, 519
 - cell membrane permeability, electron, muscle spindle, temperature, elovich equation, temperature dependence, 892
 - electrode, operational amplifier, 182
- electrolyte balance**, acid base balance, computer, computer program, 1612
- electromagnetic field**, breathing rate, eyelid, movement, radiation hazard, restraining device, telemetry, small animals, 3648
- electromagnetic flowmeter**, artery, artery bypass, surgery, 1807
 - blood flowmeter, implantation, evaluation and calibration, 1087
 - blood flow, heart output, percutaneous measurement, baseline, 1541
 - blood flowmeter, catheter flowmeter, 3 electrode probe, 2902
 - blood flowmeter, mathematic model, flow meter equation, 3064
 - blood flow, electroencephalography, flowmeter, stress, telemetry, neurotransmitter, electrocardiography, implantation, animal, 3321
 - pulsed flowmeter, 3390
- electromagnetic radiation**, amplitude modulator, telemetry, linear modulator, 2148
 - amplifier, telemetry, wide band amplifier, input impedance, 2525
 - bolometer, electric power, power measurement, millimeter wave, 2212
 - environmental health, industrial health service, radiation hazard, 301
 - laser, radiation energy, volume characteristic, 3006
 - microwave radiation, radiation hazard, radiation monitoring, 2678
 - magnetic field, radiation absorption, dispersion equation, 3416
 - radiation hazard, energy absorption, 1056
 - radiation, radiation monitoring, thin film technique, 2680
 - reflectometry, 10 to 50 mhz, 2685
 - radiation hazard, review, 3397
- electrometer**, automatic range switch, 1356
 - amplifier, ds2c amplifier, fet input modification, 2118
- electromyography**, active filter, averaging, 173
 - amplifier, arm prosthesis, myoelectric control, prosthesis, transducer, 1131
 - analog digital converter, real time calculation, 1808
 - amplifier, low noise amplifier, 2116
 - artifact reduction, electroencephalography, emg artifact reduction, 3106
 - artifact, artifact reduction, cable, electrocardiography, electroencephalography, transformation, 3674
 - biceps brachii muscle, tonic stretch reflex, frequency response characteristics, 417
 - biomechanics, body movement, computer, movement, on line analysis, 3183
 - breathing rate, electrocardiography, electroencephalography, electrooculography, hybrid computer, sleep automatic analysis, 3191
 - body temperature, electroencephalography, oxygen tension, telemetry, neurotransmitter, multichannel transmitter, 3322
 - breathing mechanics, diving, sport, telemetry, 3650
 - computer program, frequency analysis, motor unit potential, parameter analysis, 474
 - computer, frequency analysis, olivetti p101, biomac 500, 1964
 - computer, frequency analysis, quantitative emg, 2362
 - clothing, electrocardiography, environmental health, ergometry, heart rate, telemetry, thermogenesis, work, 3327
 - computer, electroencephalography, hybrid computer, rem sleep, sleep, 3562
 - electrode, motor unit, motor unit potential, quadrifilar electrode, 794

- electrode, 824
- electroencephalography, integrator, 1110
- electrode, silastic, chronic lead, bat, 1132
- electrode impedance, skin, surface emg measurement, 2363
- extraocular muscle, frequency analysis, motor unit potential, 3263
- forearm, mathematic model, model, muscle, muscle model, 77
- frequency analysis, mathematic model, motor unit, interference activity, 1321
- fish, free swimming fish, recording, 2364
- intestine, pharmacology, smooth muscle, telemetry, ureter, uterus, 1752
- locomotion, muscle tone, stimulator, telemetry, free moving, rabbit, 1753
- myoelectric control, prosthesis, biofeedback, 2358
- model, movement, muscle, muscle contraction, voluntary movement, 2866
- myoelectric control, prosthesis, design of control system, 3134
- palate, speech, tongue, method, electropalatography, 2291
- surface emg, reliability, 3511
- tension headache, 6 cases, 1900
- electron**, cell membrane permeability, electrolyte, muscle spindle, temperature, elovich equation, temperature dependence, 892
- electronic calculator**, cobalt 60, computer, dosimetry, process control, radiotherapy, 842
- electronic counter**, oscilloscope, logic circuit, 3300
 - ring counter, power output, 2537
- electronic equipment**, power supply, overload protection, protection system, 634
- electronic switch**, digital computer, integrated circuit, analog switch, 3369
 - power supply, 2552
 - semiconductor, switch, thyristor, power switch, merits, 955
 - switch, 2143
- electron microscopy**, 1777
 - 3 million volt, 2711
 - amplifier, current meter, dosimetry, logarithmic amplifier, picoammeter, 3286
 - brightness, 500kv, high voltage gun, brightness measurement, 2202
 - biological specimen, elastic and nonelastic specimens, 2585
 - computer program, deoxyribonucleic acid, atom discrimination, 224
 - cathode ray oscilloscope, stabilized voltage supply, 625
 - cathode ray oscilloscope, television camera, image processing, image parameters, 988
 - computer, computer model, magnetic field, design, 1386
 - copper, mica, silver, calibration, crystal removing, 2591
 - chemical kinetics, 2716
 - contamination, vacuum pump, polymer growth reduction, fluorocarbon oxide pump fluid, 3662
 - digital computer, sweep generator, electron probe, magnetic lens, high voltage sweep, 973
 - endothelium, dark field operation, 3346
 - generator, hollow cone illumination, sine cosine generator, 3664
 - high voltage, review, 1392
 - image processing, thin polymer film, 2583
 - lens, modulation transfer function, electrostatic lens, 232
 - microscopy, molybdenum, tungsten, cathode, flashing effect, 953
 - modulation transfer function, image processing, defocusing, 2963
 - microscopy, image processing, image optimization, 3343
 - phase contrast microscopy, demonstration, 2576
 - phase contrast microscopy, solution of phase problem, 2584
 - phase error, 3349
 - specimen holder, low temperature, 662
 - specimen holder, hitachi hu 11a, hu 200e, 1384
 - shadow electron microscope, electron diffraction, 1774
 - target, 227
 - welding, microwelding, 3624
- electron paramagnetic resonance**, lysozyme, myoglobin, myosin, protein, enzyme, functional group distance, 1833
- electron probe**, digital computer, electron microscopy, sweep generator, magnetic lens, high voltage sweep 973
 - voltmeter, scanning electron microscopy, acceleration potential, 706
- electron spin resonance**, bone, cobalt 60, dosimetry, gamma radiation, powder, radiotherapy, thermoluminescence, bovine, deproteinized bone powder, 1589
 - endoplasmic reticulum, microsome membrane, molecular organisation, 2851
 - free radical, protein, biological application, 1653
 - goniometer, crystal, single crystal, 2692
 - magnetic field, spectrometry, field marker, 1052
 - model, phase space representation, 3268
 - matrix diagonalization, 3421
 - photolysis, spectrometry, sampling amplifier, 1050
 - photolysis, spectrometry, 2686
 - spectrometry, low frequency, high sensitivity, 300
 - spectrometry, base line drift, double integration, 1054
 - spectrometry, automatic balanced bridge, 1484

electron spin resonance spectrometry, adenosine triphosphate, muscle, myosin, rabbit, 2788
 -digital computer, magnetic field, spectrometry, sweep generator, digital generator, 2689

electrooculography, artifact, artifact reduction, computer, electroencephalography, eye movement, on line method, 2320
 -automatic analysis, 2820
 -brain steady potential, electroencephalography, electroretinography, glia cell, nerve cell potential, ph, sodium, 1708
 -breathing rate, electrocardiography, electroencephalography, electromyography, hybrid computer, sleep, automatic analysis, 3191
 -computer, automatic recording, 475
 -computer, computer program, data processing, 2406
 -eye movement, linearity of horizontal component, 1727
 -electrode, eye movement, 1925
 -retina fovea, recording, 1920

electrooptic shutter, birefringence, macromolecule, 1314

electrophoresis, chromatography, computer program, thin layer gel filtration, resolving overlapped and skewed peaks, 3541
 -immunoglobulin g, sucrose, horizontal set up, electrofocusing, 1801

electroretinography, averaging, electroanesthesia, evoked response, signal noise ratio, on line circuit, 398
 -autocorrelation, modulated light, retina ganglion cell potential, 808
 -aspartate, hydrogen ion, late receptor potential, bullfrog, 1323
 -artifact reduction, artifacts elimination, 2188
 -brain steady potential, electroencephalography, electrooculography, glia cell, nerve cell potential, ph, sodium, 1708
 -brightness, color vision, luminance, 2896
 -beta rhythm, dark adaptation, frequency analysis, 3505
 -computer program, digital computer, evoked cortical response, evoked visual response, 3748
 -computer, retina pigment degeneration, improved detection method, 3774
 -death, early receptor potential, insect, 2339
 -dark adaptation, frequency analysis, light adaptation, retina, oscillatory potentials, light intensity, man 3615
 -electroencephalography, photodiode, photostimulation, 3099
 -model, photoreceptor, retina, sodium, cephalopod, 3120
 -retina, retina bipolar ganglion cell, movement detection, lateral inhibition, frog, 1575

electrostatic charge, cell, cell interaction, coulomb force, 583
 -model, molecule, muscle, van der waals force, electrolyte system, cylindrical particle, 3575

electrostimulation, alternating current, blood pressure, heart, rat, rabbit, near heart stimulation, 351
 -body posture, gravity, labyrinth, vestibular system, 60
 -brain cortex slice, metabolism, mitochondria, nerve cell, oxygen consumption, rat, mouse, 579
 -cytoplasm, glia cell, nerve cell, nerve fiber, ribonucleic acid, lysine h 3, tritium uridine, incorporation, tritonia, 1558
 -conditioning, direct current, motor cortex, temporal cortex, cat, 1908
 -calcium, membrane, molecular biology, sodium, 3570
 -commutator, brain depth stimulation, rodent, 3729
 -dentistry, stimulator, tooth pulp, reliability, 3449
 -hodgkin huxley equation, nerve fiber potential, potassium, increased modulation and linearity, constant current stimulus, 153
 -heart arrhythmia, heart atrium, heart muscle, development, frog, 1527
 -head movement, inferior colliculus, brain depth stimulation, effectiveness increase, cat, 3096
 -illumination, retina, pulsed illumination, sensitivity changes, 3122
 -latent period, median nerve, nerve potential, stimulation artifact, wrist, sensory nerve, 948
 -motor cortex, movement, man, 789
 -pulse generator, lung function, 376
 -tactile discrimination, touch, 385

electrosurgery, burn, electrocardiography, electrocoagulation, electrode, electrode located burns, 2264

elevator, electrocardiography, electroencephalography, hospital, interference suppression, magnetic field, roentgen equipment, 2238
 -hospital, process control, lift control, 750
 -orbit, periosteum, surgery, retractor, periosteal elevator, 1947

embryogenesis, data processing, data fitting, curve fitting, allometry, gompertz curve, 1240

emergency, hospital, power supply, 3533
 -medical care, telemetry, traffic accident, trauma, 2954

emotion, blood flow, blood pressure, exercise, kidney blood flow, telemetry, implantation, implantable transmitter, 3657
 -speech, pattern recognition, correlates, spectrogram, 1686

emphysema, bronchitis, data processing, data reduction, epidemiology, 13,000 cases, 1968

employment, medical engineering, comment, 1635

enamel, bone, dentin, tooth, shear stress, 1671

encephalopathy, echoencephalography, echography, microphone, sector scanning, 2317

endocardial electrode, artificial heart pacemaker, electrode, dislocation reduction, 1534

endocardium, artificial heart pacemaker, electrode, epicardium, complication, endocardial electrode vs pericardial electrode, 1538
 -epicardium, heart muscle cell, left heart ventricle, mathematic model, preload, 546

endocrine gland, brain, computer model, computer program, mathematic model, model, nerve cell network, non linear system, 30
 -central nervous system, feedback system, nonperiodic oscillation, 1650
endolymph, cochlea microphonic potential, corti organ, middle ear, hair cell, endolymphatic pressure, review, 801
endolymphatic pressure, cochlea microphonic potential, corti organ, endolymph, middle ear, hair cell, review, 801
endoplasmic reticulum, calcium, muscle contraction, molecular mechanism, 2039
 -electron spin resonance, microsome membrane, molecular organisation, 2851
 -golgi apparatus, iodine 131, microwave radiation, protein bound iodine, thyroid gland, ultrastructure, animal, 3683
endoprosthesis, bone, joint, prosthesis, joint prosthesis, 2780
 -joint prosthesis, survey, 2781
endoradiosonde, peptic ulcer, stomach acid, stomach ulcer, telemetry, man, 2256
endoscopy, colon, intestine, peroral endoscopy, 1520
 -diagnosis, roentgen apparatus, roentgen radiation, stomach, 3521
 -fiberscope, gastrointestinal tract, review 1972, 1858
 -forceps, gastrointestinal tract, polyp, flexible forceps, 3535
 -intestine, whole intestine, 1519
 -pharynx, videorecording, oral endoscope, videotape, 3075
endothelium, electron microscopy, dark field operation, 3346
endplate potential, mathematic model, miniature endplate potential, noradrenalin, 2083
energy, cardioversion, heart defibrillation, indicated and delivered energy, 776
energy transfer, aorta flow, edema, heart failure, heart work, left heart ventricle, mathematic model, 1094
 -atmosphere, solar radiation, sun, 1471
 -fiberscope, multimode fiber, 1830
 -heart ventricle work, left heart ventricle, model, heart ventricle systole, left heart ventricle pressure, left heart ventricle enddiastolic volume, left heart ventricle volume, concentric layer model, 1093
engram, memory, model, nerve cell, recall, 2911
engstroem respirator, artificial ventilation, gas, lung model, lung ventilation, different respirator settings, 2041
entorhinal cortex, dentate gyrus, hippocampus, nerve cell membrane potential, nerve cell potential, nerve conduction, compartment model, computation, 3266
entropy, computer model, mathematic model, nervous system, 2074
 -information, 2024
 -lateral geniculate body, nerve cell potential, red nucleus, reticular formation, stochastic model, markov process, 152
 -nerve conduction, nerve fiber potential, 576
 -thermodynamics, thermodynamic equilibrium, entropy rise, 1282
enucleated eye, eye, transillumination, eye tumor, egg candler, 1916
environment, telemetry, radio tracking, small creature, 3336
 -tritium, water h 3, australia, 3379
environmental health, 2621
 -air pollution, monitoring, contaminating oxydant measurement, continuous sampling, 329
 -air pollution, ecology, sociology, water pollution, engineering aspect, 507
 -aerosol, air pollution, monitoring, particle size, particle sizes, 1103
 -air pollution, computer model, plant, power, 1410
 -air pollution, infrared radiation, laser, spectrometry, hydrogen cyanide, water vapor, 1510
 -aerosol, air pollution, laser, smoke, detection system, 1543
 -atmosphere, fallout, model, radiation hazard, rain, nuclear radiation, poland, 2222
 -aerosol, atmosphere, light, light transmission, aerosol analysis, 2243
 -aerosol, atmosphere, laser, light, light reflection, aerosol analysis, 2244
 -aerosol, atmosphere, light reflection, aerosol analysis, 2245
 -air pollution, monitoring, ozone, monitor calibration, 2376
 -air pollution, lung, particles 0.2-2 micron, steam condensation, 2747
 -air pollution, laser, light absorption, nitrous oxide, 3016
 -air pollution, ionization meter, radiation, radiation monitoring, tritium, 3029
 -alpha radiation, fluorescence, roentgen radiation, chemotracer, 3044
 -air pollution, source location, 3255
 -computer, heart rate, monitoring, skin temperature, tape recording, data logger, computer compatible output, 486
 -computer model, digital computer, model, 3221
 -clothing, electrocardiography, electromyography, ergometry, heart rate, telemetry, thermogenesis, work, 3327
 -design, 688
 -dosimetry, lithium fluoride dosimeter, thermoluminescence, nuclear instrumentation, nuclear radiation, caso4:dy, 1496
 -filtration, particle counter, filtration plant, 1515
 -helicopter, rotor tip, 3040
 -hearing, laser, noise, sound, environmental noise, 3437
 -industrial health service, radiation hazard, electromagnetic radiation, 301
 -mathematic model, model, sound absorption, sound propagation, 557
environment temperature, cold stress, computer model, hypothalamus, preoptic area, skin temperature,

thermoreceptor, 2 temperature input models, 2875

enzyme, allosteric enzyme, glycolysis, oscillation, phosphofructokinase, chemical kinetics, glycolytic oscillation, 888

- biology, mathematic model, model, quantum mechanics, biological indeterminacy, 3571
- circadian rhythm, basis, 523
- computer, creatine phosphokinase, data processing, laboratory, lactate dehydrogenase, serum, serum aspartate aminotransferase, system analysis, 1172
- computer model, model, chemical kinetics, quantum model, oscillation, 3227
- cell, metabolism, model, 3443
- dosimetry, heavy particle radiation, virus, 709
- digital computer, packed bed reactor, 2401
- electron paramagnetic resonance, lysozyme, myoglobin, myosin, protein, functional group distance, 1833
- luminescence, telemetry, 2563
- model, chemical kinetics, threshold mechanism, 905

enzyme kinetics, cytochrome, model, oxidation, protein, semiconductor, solid protein, theory, 891

- stochastic model, linear system, chemical kinetics, open linear system, 1230

epicardium, artificial heart pacemaker, electrode, endocardium, complication, endocardial electrode vs pericardial electrode, 1538

- catheter electrode, electrode, heart muscle potential, dog, 1867
- endocardium, heart muscle cell, left heart ventricle, mathematic model, preload, 546

epidemiology, autopsy, biopsy, data processing, digital computer, nomenclature, pathology, retrieval, 1197

- bronchitis, data processing, data reduction, emphysema, 13,000 cases, 1968
- computer, 445
- computer program, psychiatry, symptom, 857
- computer program, psychiatry, symptom, 1959
- computer, salmonella typhimurium, salmonellosis, epidemiology, computer analysis, france, 3149
- data processing, data reduction, digital computer, multivariate analysis, smoking, age, 1314 smokers, 176 non smokers, data reduction, age equivalence, 2969
- infection, model, population, statistics, disease, 3578
- model, public health service, statistics, classification, 910

epilepsy, alpha rhythm, central nervous system, electroencephalography, excitation, inhibition, mathematic model, nerve cell network, 940

- brain, non periodic oscillation, 1318
- brain depth recording, telemetry, temporal lobe epilepsy, 44 patients, 2760
- brain cortex, electroencephalography, motivation, convulsion, 3108
- computer, population, statistics, 875
- conditioning, mathematic model, 941
- computer, electroencephalography, spike, automatic spike estimation, 3780
- electroencephalography, telemetry, long term eeg, 3323
- model, model comparison, 1319

epileptic nerve cell, mathematic model, nerve cell, nerve cell potential, synapse transmission, 1320

epithelial cell, cell membrane, cell membrane permeability, skin, flow chamber, step experiment, frog, 1667

- cell membrane potential, cell membrane short circuit current, automatic measurement device, 2094

equation, fourier transform, solution, 44

equilibrium, body posture, model, man, vertical posture, 2474

- criteria, 511
- leg, mathematic model, concept, 3576

erector spinae muscle, impact, mathematic model, spine, seatbelt, muscle influence, man, 3512

ergometry, biomechanics, muscle, sport, telemetry, rowing, 1764

- computer, data processing, file handling, 447
- clothing, electrocardiography, electromyography, environmental health, heart rate, telemetry, thermogenesis, work, 3327
- digital computer, telemetry, multichannel transmission, 3646
- electrocardiography, electroencephalography, stress, telemetry, man machine interaction, 3645
- football, oxygen consumption, sport, telemetry, work, 3647
- spirometry, sport, telemetry, lung function, review, 647

erythema, citric acid, eugenol, mouth mucosa, phosphoric acid, methacrylic acid methyl acid, 1856

- skin, ultraviolet radiation, evaluation device, 827

erythrocyte, anti D, newborn hemolytic disease, 1078

- artificial ventilation, blood flow, gas embolism, oxygenation, respiration, rheology, sound, gas bubble, 3602
- artificial kidney, blood flow, hemodynamics, plasma, thin film blood flow, 3721
- blood rheology, model, viscosity, liquid drop model, 1864
- blood flow, coulter counter, aspherical particle rotation, 2487
- blood, mathematic model, rheology, shear stress, shear rates, wide range, 3055
- blood, cell kinetics, elektrokinesia, lymphocyte, thrombocyte, 3670
- cell, chloroplast, mitochondria, light scattering, particle volume, 105
- cell membrane permeability, cell membrane potential, dipole model, electro tension and torque, 135
- conductivity, model, suspension, 1031
- cell motion, holography, model, 2009
- container, erythrocyte preservation, liquid nitrogen, 3054
- deoxyribonucleic acid, sound, shear stress, cell disruption, 1695

- erythrocyte ghost, model, liquid drop model, 1309
- erythrocyte membrane, extracellular space, sodium, sodium 22, compartment model, unstirred layer evidence, 2444
- erythrocyte membrane, mathematic model, rectangular and spherical model, 3581
- glutaraldehyde, shear stress, 761
- hemolysis, muscle fiber, sodium, nuclear magnetic resonance spectrometry, frog, 2259
- new device, 1866
- oxygen, oxygen tension, active vent, 3047
- particle size, spheroid joint, electrical sizing, 1076
- shape, physical explanation, 3453
- erythrocyte aggregation**, blood viscosity, capillary, capillary flow, hematocrit, 117
- erythrocyte count**, blood cell count, leukocyte count, correction table for automatic method, 1077
- erythrocyte cr 51**, chromium 51, erythrocyte fe 59, forearm, iron 59, radiation counting, 1060
- erythrocyte fe 59**, chromium 51, erythrocyte cr 51, forearm, iron 59, radiation counting, 1060
- erythrocyte ghost**, erythrocyte, model, liquid drop model, 1309
- erythrocyte membrane**, chemoluminescence, iron, ultraviolet radiation, lipid peroxide, 2847
 - cell membrane conductivity, space near membrane, ion mobility, 3582
 - erythrocyte, extracellular space, sodium, sodium 22, compartment model, unstirred layer evidence, 2444
 - elasticity, 2859
 - erythrocyte, mathematic model, rectangular and spherical model, 3581
 - uniaxial loading, 53
- erythrocyte membrane permeability**, magnesium, methylene blue, neuraminidase, phosphoric acid, erythrocyte membrane potential, sulfate derivative, 3057
- erythrocyte membrane potential**, erythrocyte membrane permeability, magnesium, methylene blue, neuraminidase, phosphoric acid, sulfate derivative, 3057
- erythrocyte preservation**, container, erythrocyte, liquid nitrogen, 3054
- escape behavior**, conditioning, memory, heterogeneity, rat, 795
- esophagus**, biopsy, esophagus mucosa, device for obtaining cellular material, asymptomatic esophagitis, 1598
- esophagus mucosa**, biopsy, esophagus, device for obtaining cellular material, asymptomatic esophagitis, 1598
- esophagus peristalsis**, esophagus pressure, respiration, tantalum, peristalsis, cat, tantalum wires, manometry, 1857
- esophagus pressure**, esophagus peristalsis, respiration, tantalum, peristalsis, cat, tantalum wires, manometry, 1857
- esophagus stricture**, tube, 1075
- esthesiometer**, cornea, cornea sensibility, testing instrument, 236 volunteers, 1569
- estradiol**, deoxycorticosterone, hyperpolarization, meractinomycin, muscle denervation, muscle fiber membrane, muscle fiber membrane potential, protein synthesis, ribonuclease, rat, 3046
- ether**, anesthetic equipment, cyclopropane, halothane, methoxyflurane, rubber, drug absorption, 372
- ethylene glycol bis(2 aminoethyl)tetraacetate**, adenosine triphosphate, calcium, computer program, data processing, muscle relaxation, spectrometry, 1174
- eugenol**, citric acid, erythema, mouth mucosa, phosphoric acid, methacrylic acid methyl acid, 1856
- euglena**, food processing, 893
- evoked acoustic nerve response**, acetylcholine, brain cortex layer, evoked cortical response, 4 aminobutyric acid, sylvian gyrus, electrogenetical differences, dog, 1550
 - cochlea, cochlea microphonic potential, evoked cortical response, hearing, chinchilla, 1677
 - deafness, driver licence, hearing, hypacusis, traffic, 411
 - deafness, driver licence, hearing, hypacusis, traffic, vestibular system, 3739
 - evoked cortical response, hearing, hemisphere, hemispheric dominance, noise, verbal input, non verbal input, 1109
 - electroencephalography, evoked hippocampus response, hippocampus potential, cat, 2312
- evoked cortical response**, averaging, mathematic model, 151
 - acetylcholine, brain cortex layer, 4 aminobutyric acid, evoked acoustic nerve response, sylvian gyrus, electrogenetical differences, dog, 1550
 - binocular vision, evoked visual response, retina, retina interaction, dioptic vs dichoptic stimulation, 2321
 - brightness, evoked visual response, vision, contrast, volunteers, 3607
 - cochlea, cochlea microphonic potential, hearing, evoked acoustic nerve response, chinchilla, 1677
 - computer program, digital computer, electroretinography, evoked visual response, 3748
 - electroencephalography, evoked visual response, hemiplegia, adults, 410
 - evoked visual response, random vs periodic stimulation, 927
 - evoked visual response, phase detection, signal processing, electric filter, phase distortion, 2117
 - electroencephalography, eye, motivation, photostimulation, task performance, age, 3102
 - evoked response audiometry, 3722
 - electroencephalography, evoked visual response, frequency analysis, analyzing technique comparison, 3733
 - hearing, hemisphere, hemispheric dominance, noise, evoked acoustic nerve response, verbal input, non verbal input, 1109
- evoked hippocampus response**, electroencephalography, evoked acoustic nerve response, hippocampus potential, cat, 2312
 - low pass filter, mathematic model, hippocampus potential, component analysis, 2915
- evoked response**, averaging, electroanesthesia, electroretinography, signal noise ratio, on line circuit, 398

- audiometry, averaging, electroencephalography, evoked response audiometry, optical method, 874
- averaging, computations variance, 2593
- model, nerve cell, nerve cell potential, 3619
- evoked response audiometry**, audiometry, averaging, electroencephalography, evoked response, optical method, 874
- audiometry, computer model, digital computer, electroencephalography, filter, matched filter, 938
- electroencephalography, procedure, children, adults, electroencephalic sensitivity, 3092
- evoked cortical response, 3722
- evoked visual response**, binocular vision, evoked cortical response, retina, retina interaction, dioptic vs dichoptic stimulation, 2321
- brightness, evoked cortical response, vision, contrast, volunteers, 3607
- computer program, digital computer, electroretinography, evoked cortical response, 3748
- electroencephalography, evoked cortical response, hemiplegia, adults, 410
- evoked cortical response, random vs periodic stimulation, 927
- evoked cortical response, phase detection, signal processing, electric filter, phase distortion, 2117
- electroencephalography, evoked cortical response, frequency analysis, analyzing technique comparison, 3733
- evolution**, plate tectonics, 877
- protein, stochastic model, 1234
- examination**, computer, medical education, multiple choice test, physiology, 1950
- exchange blood transfusion**, computer, computer program, diagnosis, newborn, 465
- infusion, pump, roller pump, 344
- excitable cell**, calcium, cell membrane, cell membrane conductance, model, sodium, 2907
- cell membrane, model, excitable membrane, basic equation, 2909
- model, excitable membrane, heart muscle contractility, closed pathway formation, 1721
- mathematic model, nerve cell, locally homogeneous network, 2096
- excitable membrane**, calcium, hodgkin huxley equation, model, potassium, sodium, physicochemical model 1329
- calcium, hodgkin huxley equation, model, potassium, sodium, physicochemical model, 1720
- calcium, cell membrane permeability, model, potassium, sodium, molecular mechanism, 2494
- calcium, hodgkin huxley equation, nerve cell, nerve conduction, nerve fiber membrane, phosphatidylserine, potassium, serine, sodium, 2498
- cell membrane, excitable cell, model, basic equation, 2909
- calcium, membrane potential, model, 3261
- excitable cell, model, heart muscle contractility, closed pathway formation, 1721
- excitation**, alpha rhythm, central nervous system, electroencephalography, epilepsy, inhibition, mathematic model, nerve cell network, 940
- all or none law, nerve conduction, nerve fiber membrane, strength duration curve, dipole model, quantum theory, 1315
- heart arrhythmia, syncytium, multicomponent excitable medium, 2735
- mathematic model, nerve cell, excitation spread, 3614
- nerve cell, ring type net, 2913
- excitation contraction coupling**, actin, calcium, laser, muscle fiber, tropomyosin, troponin, quasiselastic scattering, 512
- excitatory postsynaptic potential**, inhibitory postsynaptic potential, learning, mathematic model, memory, model, nerve cell, nerve cell model, synapse, 3264
- exercise**, air flow, respiration, telemetry, flow measurement, 1758
- aorta pressure, blood pressure, heart catheterization, heart ventricle pressure, lung artery pressure, telemetry, 3652
- blood pressure, telemetry, vein pressure, 1761
- body temperature, thermometer, thermal adaptation, portable device, 2183
- blood flow, blood pressure, emotion, kidney blood flow, telemetry, implantation, implantable transmitter, 3657
- computer, electrocardiography, exercise test, rest, 1206
- coronary angiography, digital computer, ischemic heart disease, vectorcardiography, vcg quantitative processing, 2405
- carotid artery pulse, electrocardiography, systole, heart left ventricle ejection time, atraumatic method 3472
- electrocardiography, electrode, sport, spray electrode, 271
- electrocardiography, heart rate, cardiometer, 1084
- electrocardiography, phonocardiography, heart tape recorder, test, voice, portable device, magnetic tape recorder, 3061
- lung ventilation, lung volume, pneumotachygraphy, second time derivative v recording, 2296
- model, muscle blood flow, muscle oxygen tension, oxygen consumption, 1278
- oxygen tension, respiration, telemetry, 1759
- oxygen consumption, respiration, telemetry, 1760
- exercise test**, computer, electrocardiography, exercise, rest, 1206
- computer, gas exchange, lung ventilation, metabolism, respiration, breath by breath analysis, 1979
- computer, spirometry, lung function, on line computer, 3784
- experiment**, blood, computer, experiment sampling, children, 2390
- illumination, interference suppression, chamber, 1426
- experimental animal**, breeding, 1849
- economy, 2827

- intraocular pressure, manometer, rabbit, 1120
- monkey, 3274
- expiration**, analog computer, computer model, coughing, 68
 - airway, airway pressure, inspiration, model, airway flow, sinusoidal flow, 540
 - computer model, digital computer, lung model, lung volume, 69
 - carbon dioxide tension, carbon 14, scintillator, 3080
 - lung compliance, lung model, model, 541
- exponential model**, computer program, information processing, digital computer, information processing, sum of exponentials, 3573
- extensor hallucis longus muscle**, biomechanics, tendon, mechanical recovery, 2046
- external ear**, analog model, ear drum, model, 3235
- extracellular fluid**, heart output, indicator dilution curve, lung edema, thermodilution curve, measurement method, dog, 3079
 - nerve cell, nerve cell membrane, potassium, sodium, snail, 933
- extracellular space**, erythrocyte, erythrocyte membrane, sodium, sodium 22, compartment model, unstirred layer evidence, 2444
- extracorporeal circulation**, arterial carbon dioxide tension, arterial oxygen tension, arterial ph, oxygenation, plastic membrane, thrombocyte count, coronary artery bypass graft, 3m² lande edwards disposable oxygenator, 1877
 - artificial heart, portable pump, pulsatile pump, 3713
 - cardiogenic shock, angiocardiology, heart infarction, ischemic heart disease, open heart surgery, oxygenation, aorta balloon pump, aortocoronary bypass graft, 4 patients, 3702
 - heart lung machine, design, small animals, 2733
 - morton keele pump, 2736
 - membrane oxygenator, servo controlled unit, puppies, 3065
- extrafoveal vision**, retina, retina fovea, vision, 28 observers, 2062
- extraocular muscle**, electromyography, frequency analysis, motor unit potential, 3263
 - model, muscle performance, rapid eye movement, saccadic eye movement, optimum muscular performance, 3121
- extrapyramidal system**, anterior horn, motor cortex, pyramidal tract, spinal cord potential, cat, 2308
- extrasystole**, heart muscle, model, heart ventricle arrhythmia, vulnerability, frog, 3059
- eye**, accommodation, measurement device, 1577
 - accommodation, bioengineering, blindness, visual aid, 2338
 - blood clotting, ciliary body, iris, laser, rabbit, histopathology, 1599
 - circadian rhythm, locomotion, motor activity, photoreceptor, crayfish, 409
 - cornea contact lens, lens, myopia, vision, eye glasses, 17,000 cases, progressive myopia, comparison, 1116
 - cornea, retina image, vision, 2893
 - digital computer, eyeball, model, parameter estimation, 3150
 - discharge, infrared radiation, laser, light, radiation hazard, retina, ultraviolet radiation, halogen lamp, lesion, lamp, evaluation, 3746
 - echography, echooculography, transducer manipulation, 1590
 - enucleated eye, transillumination, eye tumor, egg candler, 1916
 - electroencephalography, evoked cortical response, motivation, photostimulation, task performance, age, 3102
 - growth, refraction, visual system, rabbit, 2347
 - infrared radiation, laser, radiation hazard, eye protection, 1573
 - industrial medicine, laser, optic filter, radiation hazard, radiation protection, filter optimization, 3009
 - light, mathematic model, retina, temperature, 819
 - retina, retina image, modulation transfer function, approximation, 1923
 - slit lamp, beam alignment, 3506
- eyeball**, digital computer, eye, model, parameter estimation, 3150
- eye fixation**, eye movement, model, stochastic model, 75
- eye fundus**, camera, design, 984
- eye fundus photography**, angiography, restraining device, bite, 2349
- eye glasses**, cornea contact lens, eye, lens, myopia, vision, 17,000 cases, progressive myopia, comparison, 1116
- eye hand control**, hand, task performance, hand position recording, 2333
- eye injury**, lens, spectacle glasses, injury reduction, 2770
- eyelid**, breathing rate, electromagnetic field, movement, radiation hazard, restraining device, telemetry, small animals, 3648
- eye movement**, 1568
 - artifact, artifact reduction, computer, electroencephalography, electrooculography, on line method, 2320
 - arm, transducer, orthosis, control system, 3131
 - critical flicker fusion, movement detection, motion picture, apparent motion, 1113
 - eye fixation, model, stochastic model, 75
 - electrooculography, linearity of horizontal component, 1727
 - electrode, electrooculography, 1925
 - muscle tone, newborn, rem sleep, 396
 - perception, retina, vision, visual system, man machine interaction, total system evaluation, 2063
 - photoelectric recording method, 2342
 - rapid eye movement, rem sleep, analyzer, 2762
 - saccadic eye movement, oculomotor system, linear system, linear system studies, 544

- saccadic eye movement, voluntary movement, analysis, 809
- sinusoidal smooth pursuit, new recording device, 2335
- eye protection**, eye, infrared radiation, laser, radiation hazard, 1573
- eye trauma**, infrared radiation, light, ultraviolet radiation, 296
- eye tumor**, enucleated eye, eye, transillumination, egg candler, 1916

face, biophysics, bone, electricity, morphogenesis, skeleton, skull, 3209

- computer, digital computer, man machine interaction, face identification, 509
- computer, growth, radiography, skull, morphometrics, 1974
- conditioning, model, movement, prosthesis, linear filter theory, cat, prosthesis, 3110
- geometry measurements, 3374
- prosthesis, radiotherapy, docking device, 2792
- restraining device, skull, nonhuman primates, craniofacial research, 2507

facial nerve, stimulator, 972

factor analysis, cell membrane, membrane, light scattering, roentgen scattering, 533

factory, electroencephalography, 26 cases, 3728

fallout, atmosphere, environmental health, model, radiation hazard, rain, nuclear radiation, poland, 2222

fascia lata, heart valve, heart valve prosthesis, hydrodynamics, in vitro, starr edwards prosthesis, comparative study, 2047

fastigial nucleus, cerebellum, locomotion, nerve cell, nerve cell potential, interpositus nucleus, cat, 2307

fast muscle, muscle fiber, slow muscle, muscle fiber contractility, microscopy, different types, frog, 1928

- muscle fiber, potassium, slow muscle, sodium, frog, 2782

fat cell, adrenal, lipolysis, perfusion system, 2246

fatigue, finger, joint, prosthesis, silastic, fatigue testing, 415

feedback system, amplifier, operational amplifier, feed back uncoupling, 1351

- anesthesia, artificial ventilation, halothane, heart rate, monitoring, feed back monitoring, apparatus, 3530
- blood glucose, non linear system, adaptive control, man, 1080
- cell membrane, oscillation, skin, compartment model, multi compartment model, unidirectional transport, 909
- central nervous system, endocrine gland, nonperiodic oscillation, 1650
- circadian rhythm, mathematic model, model, 2025
- circadian rhythm, mathematic model, model, petal rhythm, kalanchoe, 2459
- electric prosthesis, hand prosthesis, influenza, powered prosthesis, 2355
- hilbert space, 2028
- heart rate, model, vagus nerve, warner model, 3072
- impact, mathematic model, muscle, skeleton, system analysis, line graph flow graph procedure, 2033
- metabolism, oscillation, compartment model, transport equation, multi compartment model, 908
- model, muscle, muscle spindle, servocircuit, 2034
- model, muscle, muscle spindle, 2035
- model, muscle, muscle contraction, muscle spindle, 2036
- model, muscle contraction, muscle tetanic contraction, sliding filament theory, dynamic load, 2475
- nonlinear system, stability, criterion, 2022
- on line computer, process control, time delay, 3365
- regression, statistics, 528
- servocircuit, potentiometer, performance, 6
- stability, decentralized system, 1243
- thermistor, thermometer, linearization, 1430

feeding behavior, food, echolocation, dolphin, tracking frequency, 2053

femoral artery, artery, artery model, artery wall, carotid artery, iliac artery, model, 5 component model, 2903

- aorta pressure, assisted circulation, counterpulsation, systolic blood pressure, aorta balloon pump, method comparison, 3067

femoral artery flow, aorta flow, coronary artery flow, saphenous vein, potential error sources, 3062

femoral vein, heart catheterization, lung wedge pressure, right heart, percutaneous catheterization, 1097

femur, bone, growth, immobilization, tibia, vibration, age, bone piezoelectric potential, 132

- bone, calcium, elasticity, growth, tibia, vibration, rat, mechanical vibration, 823
- bone, titanium, aluminum oxide, attachment, electron microscopy, dog, 1581
- bone, growth, titanium, aluminum oxide, 2-8 weeks implantation, cylindrical channels, electron microprobe, dog, 1638
- bone, fracture, skeleton deformity, rabbit femora and ulnae, various mechanical parameters, 5 loading rates, 2868
- cortical bone, strength vs density, 418

femur head, sphericity assessment, 1669

femur neck fracture, nail, measurement device, 3766

fertility, ecology, mathematic model, model, population, fertility distribution, 2027

- genetics, mathematic model, population, statistics, genetic analysis, self fertilized population, rice wheat 2014

fertilization, carcinogenesis, cybernetics, genetics, information, model, regeneration, 3226

fetoplacental unit, fetus, labor, mathematic model, monitoring, review, 2017

fet semiconductor, amplifier, audioamplifier, 602

- artifact reduction, movement, free moving animals, 1553
- analog computer, multiplier, broad frequency range, 2163
- amplifier, jfet, 3199
- amplifier, differential amplifier, microelectrode, 3631
- colon tenia, ph electrode, glass electrode, sodium electrode, ion sensitive fet, guinea pig, 1509
- digital analog converter, 642
- flicker noise, mosfet, 504
- gaas, characteristics, 3200
- long time constant noise, 17
- model, semiconductor, 3202
- operational amplifier, monolithic op amp, 1221
- operational amplifier, chopper stabilisation, 2114
- operational amplifier, high slew rate, 2527
- power supply, stabilized power supply, 2136
- power supply, current or voltage stabilization, 2556
- source, 14
- fetus**, amnion, electrocardiography, heart rate, monitoring, pressure, review, technic, 436
 - acetylcholine, calcium, heart muscle contractile force, noradrenalin, temperature, heart muscle contraction, measuring method, organ culture, mouse, 2731
 - birth, telemetry, electrocardiography, 1768
 - cardiovascular system, model, 121
 - cephalometry, echography, scanning, 741
 - digital computer, electroencephalography, heart rate, intrauterine pressure, 3705
 - echocardiography, echography, heart rate, monitoring, doppler effect, 1524
 - fetoplacental unit, labor, mathematic model, monitoring, review, 2017
 - heart rate, monitoring, uterus, 2375
 - heart rate, labor, classification analysis, 3082
- fetus heart rate**, recording, recorder comparison, 771
- fetus monitoring**, chromosome, safety, ultrasonics, 438
- fiberscope**, 2652
 - blood pressure, heart infarction, heart output, heart rhythm, oxygen saturation, 765
 - bladder neck, glass fiber flexible cystoscope, 2752
 - coupled mode theory, 564
 - contrast, contrast transmission, 1389
 - current meter, diode, telemetry, voltmeter, 2145
 - cecum, colon, proctosigmoidoscopy, sigmoid, plastic tube, straightening tube, 2249
 - energy transfer, multimode fiber, 1830
 - endoscopy, gastrointestinal tract, review 1972, 1858
 - elasticity, 3375
 - gastrosocopy, photography, extra and intragastric cameras, 3050
 - holography, modulation transfer function, image processing, 2156
 - holography, 2571
 - interference pattern, 3678
 - laryngoscopy, 779
 - liquid fiber, 1454
 - light, angular distribution measurement, 2153
 - light absorption, bending, 2154
 - light transmission, 2657
 - light absorption, vision, conical optical fiber, 3680
 - model, modulation transfer function, image processing, interferometrically fiber optics, 664
 - modulation transfer function, 926
 - microscopy, vibration, measurement method, amplitude and rate, 2979
 - modulation transfer function, scattering loss, support structure, 3347
 - pulse distortion, 1825
 - scanning electron microscopy, scintillator, 2577
- fiberoscopy**, camera, image processing, pinhole camera, 3021
- fibrinolysis**, blood clotting, magnetic field, 3452
- fibula**, biomechanics, 73
- fick method**, computer, dow formule, heart output, dye, 27 cases, hamilton method, 869
 - computer, heart output, thermomodulation curve, method comparison, dog, 3783
- film camera**, cathode ray oscilloscope, oscilloscope, 1396
 - laser, television, 2157
- film cassette**, dentistry, maxilla sinus, radiodiagnosis, roentgen apparatus, temporomandibular joint, cassette holder, 3138
- filter**, audiometry, computer model, digital computer, electroencephalography, evoked response audiometry
 - matched filter, 938
 - anesthesia, halothane, adsorption capacity, dragerfilter no 633, 2374
 - contrast, image processing, random diffuser, 2162
 - cobalt 60, dosimetry, gamma radiation, lead, radiotherapy, uterine cervix, uterine cervix carcinoma, cancer, 3514
 - holography, photography, phase hologram, dichromated gelatin, 244
 - laser, fourier transform, 31
 - luminescence, fluorimeter, 3412

- sterilization, disposable, 379
- filtering**, statistics, linear system, non gaussian distribution, 1256
- filtration**, environmental health, particle counter, filtration plant, 1515
- finger**, artery pulse, plethysmography, long term measurement device, 3466
 - bone density, computer, computer program, iodine 125, profile scanner, 3181
 - fatigue, joint, prosthesis, silastic, fatigue testing, 415
 - forearm, impedance, skin, tissue, 1270
 - photoelectric plethysmography, plethysmography, raynaud phenomenon, curve analysis by electronic derivation, 3710
- first heart sound**, frequency analysis, heart muscle oxygen consumption, internally, externally, comparison, dog, 2275
- fish**, cooling, carotid artery revascularization, maintenance system, flat fish, 2503
 - electromyography, free swimming fish, recording, 2364
 - electric field, heart rate, telemetry, water temperature, noncontact sensing, trout, 3334
- flagella**, adenosine diphosphate, adenosine triphosphate, elasticity, spermatozoon, stiffness, bull, 3595
 - computer, computer model, digital computer, model, viscosity, sliding filament theory, 58
 - computer model, model, sliding filament theory, 1273
 - frequency analysis, 2049
 - locomotion, model, locomotion, 1583
 - model, mechanochemical model, 542
- flame detector**, geiger mueller counter, detector, 1425
- flash lamp**, computer model, model, electron drift, electron diffusion, 294
 - light, xenon, gigawatt lamp, 2649
 - neon, high repetition rate, 295
 - photolysis, xenon lamp, 600 joule, 2660
- flexion**, joint cavity, joint lubrication, knee, load bearing area, cadaver joint, 2777
- flight**, visual orientation, pattern recognition, fly, 3496
- flow**, artery, artery flow, artery model, birefringence, tube, reynold number, arterial branching, 119
 - digital computer, convective flow, algorithm, 2484
 - flowmeter, laser, doppler effect, flow visualization, 1778
 - flowmeter, induction flow meter, t tube, 3391
 - impedance plethysmography, model, plethysmography, 2284
 - laser, doppler effect, doppler echo, 3392
 - model, sound propagation, 3 d flow, 266
 - temperature, viscosity, flow system, thermochromic measurement, 1016
 - transport equation, flux corrected transport, 2488
- flow chamber**, cell membrane, cell membrane permeability, epithelial cell, skin, step experiment, frog, 1667
- flow measurement**, air flow, exercise, respiration, telemetry, 1758
 - blood flow, blood volume, computer program, dye dilution curve, mathematic model, radiotracer, third mixing chamber, 1628
- flowmeter**, artery flow, vein flow, doppler effect, 1083
 - blood flowmeter, blood volume, thermistor, quantification, 1882
 - blood flow, electroencephalography, electromagnetic flowmeter, stress, telemetry, neurotransmitter, electrocardiography, implantation, animal, 3321
 - data processing, scintigraphy, display system, image processing, ratemeter control, 3139
 - flow, induction flow meter, t tube, 3391
 - gas flow, dynamic calibration, 1028
 - laser, doppler effect, flow, flow visualization, 1778
 - transient response, logarithmic ratemeter, 968
 - thermistor, 2984
- flow model**, artery flow, 3257
 - model, shear stress, square wall obstacle, 130
- fluorescein angiography**, photocoagulation, retina, retina detachment, argon laser, 100 patients, 1821
- fluorescence**, 293
 - air pollution, mercury, water pollution, fluorescence detector, 694
 - air pollution, fluorine, roentgen radiation, spectrometry, uranium, siemens srs, 1511
 - anthracene, scintigraphy, scintillator, photoeffect, fluorescence quenching, 2220
 - air pollution, computer, spectrometry, semiconductor detector, minicomputer, radiotracer, 2695
 - alpha radiation, environmental health, roentgen radiation, chemotracer, 3044
 - cooling, liver, temperature, mitogenesis, mouse, 1860
 - dipole theory, molecule, spectrometry, absorption spectroscopy, spectral shift, 2200
 - formaldehyde, 1803
 - gamma counting, half life time, 3407
 - heart perfusion, oxygen tension, protein, pyridine, time sharing readout, frog, 355
 - image intensifier, roentgen radiation, review, 1057
 - lipid membrane, membrane potential, staining, 1 anilidonaphthalene 8 sulfonate, 587
 - microscopy, 228
 - monochromator, roentgen radiation, high intensity radiation, 1485
 - microscopy, mucosa, rectum, fluorescent microscope, 2959
 - optic filter, photometry, spectrometry, light reflection, reflection measurement, 3402
 - pulse generator, time marker, half life time, exponential increasing interval, 209
 - protein, ultraviolet radiation, 3681

- roentgen detection, target chamber, 1486
- radioisotope, microsphere, microsphere generator, 2619
- scintillator, ne 102a, ky (tl), csy (tl), anthracene, 3425
- ultraviolet radiation, scintillator, visible emission, 722
- fluorescence angiography**, motion picture, rapid access positive film, kodak, 1918
- fluoride**, coating, gel, fluoride sodium, fluorophosphate sodium, coating vs gel, 3567
 - saliva, telemetry, tooth contact, tooth plaque, 2723
- fluoride sodium**, coating, fluoride, gel, fluorophosphate sodium, coating vs gel, 3567
- fluorimeter**, filter, luminescence, 3412
 - spectrometry, 284
- fluorine**, air pollution, fluorescence, roentgen radiation, spectrometry, uranium, siemens srs, 1511
- fluorine 18**, bone, computer, data processing, scintiscanning, 307
- fluorophosphate sodium**, coating, fluoride, gel, fluoride sodium, coating vs gel, 3567
- fluoroscopy**, abdomen, occupational medicine, radiation protection, radiology, roentgen radiation, thorax, 1147
 - analog computer, heart output, monitoring, 3558
 - blood pressure, data processing, densitometry, heart catheterization, roentgenography, television, display system, patient identification, 2 d representation, 1101
 - densitometry, lung perfusion, lung ventilation, pulsatile perfusion determination, 110
 - digital computer, model, roentgen apparatus, roentgen screen, modulation transfer function, image processing, 833
 - densitometry, 1932
 - digital computer, holography, radiography, image processing, 2419
 - food intake, radiography, infants, new device, 424
 - image intensifier, luminescence, neutron radiation, radiation, radiography, roentgen radiation, modulation transfer function, luminescing screen, 3760
- focus**, microscopy, photoelectric focusing, 226
- food**, feeding behavior, echolocation, dolphin, tracking frequency, 2053
- food intake**, automatic device, rat, 754
 - behavior, electric field, growth, magnetic field, motor activity, young chicken, 2642
 - cage, pharmacology, toxicology, powered diet, mouse, rat, 2240
 - fluoroscopy, radiography, infants, new device, 424
 - food transfer system, 2108
 - mathematic model, model, population dynamics, 3222
- food processing**, euglena, 893
- football**, ergometry, oxygen consumption, sport, telemetry, work, 3647
- forced expiratory volume**, helium, residual capacity, measurement, calculation, 3477
- forceps**, endoscopy, gastrointestinal tract, polyp, flexible forceps, 3535
 - strabismus, forces measurement, 1157
- force transducer**, displacement transducer, neuromuscular blocking, 2354
 - muscle contraction, neuromuscular blocking, neuromuscular transmission, measurement comparison, 2787
- forearm**, chromium 51, erythrocyte cr 51, erythrocyte fe 59, iron 59, radiation counting, 1060
 - electromyography, mathematic model, model, muscle, muscle model, 77
 - finger, impedance, skin, tissue, 1270
- formaldehyde**, absorption, collagen, sponge, resorption, 3197
 - fluorescence, 1803
- fortran**, aminoacid, cell extract, computer program, hydrolysate, automatic calculation, 2806
 - computer program, 990
 - computer, computer program, pathology, information system, fortran, 2422
 - computer program, curve reader, 3d surface, 3363
- fourier transform**, autocorrelation, speech, logical convolution, 924
 - bifore transform, modification, 57
 - computer program, image processing, 660
 - computer program, digital computer, holography, image processing, hologram synthesis, 2958
 - discrete fourier transform, eigenvalue, eigenvector, 683
 - digital computer, algorithm, 2457
 - digital computer, frequency analysis, hardware review, 2469
 - data processing, nuclear radiation, exponential, 2996
 - digital computer, deconvolution, 3215
 - equation, solution, 44
 - electroencephalography, frequency analysis, optical method, 2085
 - filter, laser, 31
 - fast walsh transform, 56
 - frequency analysis, computation speed, 2443
 - image processing, spatial frequency filtering, computational methods, 1237
 - light, reflectometry, ultraviolet radiation, 3019
 - review, 33
 - selective amplifier, signal detection, 966
 - spectroscopy, inverse fourier transform, 1232
 - symbolic computation, 1262
 - spectrometry, spectrophotometry, ultraviolet radiation, design, 1473
 - spectrometry, phase error, 3396

- walsh transform, symmetry analysis, 55
- fourth brain ventricle**, respiration, respiration center, respiration motoneuron, brain depth stimulation, cat, 3725
- fracture**, bone, tibia fracture, polymethyl methacrylate, rabbit, 1214
 - bone, model, wood, characterization of bone substance, bovine canine and anthropoid bone, histology, scanning electronmicroscopy, 1271
 - bone, femur, skeleton deformity, rabbit femora and ulnae, various mechanical parameters, 5 loading rates, 2868
 - bone, cobalt, adhesion reduction, histology, 18 dogs, 3510
 - cartilage, impact, joint, cartilage degeneration, rabbit, impact loading, 3591
 - osteosynthesis, 1126
- free radical**, electron spin resonance, protein, biological application, 1653
- freezing**, mathematic model, membrane, water, 3577
- frequency analysis**, artery pulse, comment, 3473
 - averaging, digital computer, oscilloscope, combination instrument, 3539
 - breathing mechanics, lung model, respiratory tract, 3 to 70 cps, 337
 - behavior, cerebrovascular disease, electroencephalography, stress, 1726
 - beta rhythm, dark adaptation, electroretinography, 3505
 - computer program, electromyography, motor unit potential, parameter analysis, 474
 - computer, electromyography, olivetti p101, biomac 500, 1964
 - computer, electromyography, quantitative emg, 2362
 - computer, computer memory, digital computer, electroencephalography, display system, pdp 8 i, 3 dim representation, 2824
 - computer program, nerve cell potential, neurophysiology, heart tape recorder, intermediate tape storage, 3190
 - computer program, digital computer, dyslexia, electroencephalography, 12 children, 13 normals, 3552
 - digital computer, electroencephalography, haan algorithm, 393
 - digital computer, digital filtering, harmonic analysis, recursive method, kalman filtering, 2466
 - digital computer, fourier transform, hardware review, 2469
 - digital filtering, telemetry, ultrasonics, 2569
 - drug, electroencephalography, pharmacology, digital output, 2912
 - dark adaptation, electroretinography, light adaptation, retina, oscillatory potentials, light intensity, man 3615
 - electromyography, mathematic model, motor unit, interference activity, 1321
 - electroencephalography, fourier transform, optical method, 2085
 - electroencephalography, time domain descriptor, 2323
 - electromyography, extraocular muscle, motor unit potential, 3263
 - electroencephalography, sharpness quantification, semiautomatic, 3616
 - electroencephalography, graphic elements, volunteers, 3723
 - electroencephalography, coherent optical processing, 3732
 - electroencephalography, evoked cortical response, evoked visual response, analyzing technique comparison, 3733
 - flagella, 2049
 - first heart sound, heart muscle oxygen consumption, internally, externally, comparison, dog, 2275
 - fourier transform, computation speed, 2443
 - heart sound, hybrid computer, function of time and frequency, 1978
 - non stationary signal, 52
 - sampling, signal processing, 36
 - spectrometry, speech, vocal cord, sift, algorithm, fundamental frequency, 2477
 - time averaged spectrum, 520
 - task performance, man machine interaction, tracking performance, 1659
- frequency converter**, multiplier, telemetry, spurious signal, 3315
- frequency discrimination**, binaural hearing, hearing, loudness discrimination, 552
 - cochlea, cochlear nerve, sound, superior olive, auditory nerve cell, 919
 - hearing, leading tone, trailing tone, frequency discrimination, 94
 - hearing, signal noise ratio, signal compression, 2481
 - hearing, information, signal, 2880
- frequency discriminator**, phase detection, 2132
- frequency divider**, staircase generator, n. counter, 205
- frequency doubler**, filterless, 982
 - square wave, 645
 - wave shape independent, 207
- frequency meter**, audio range frequency meter, 1805
- frequency modulation**, electroencephalography, nerve cell potential, spike, telemetry, transmitter, nervous system, implantation, implantable transmitter, 1757
 - modulator, heart tape recorder, pulse ratio modulation, 2543
- frequency multiplier**, 1-5 gh2, 214
- frequency standard**, time standard, crystal oscillator, temperature compensation, 20
- fresnel lens**, lens, prism, visual acuity, 2482
- frontal cortex**, cingulate gyrus, electrocoagulation, neurosis, case report, 2316
- fruit**, infrared radiation, light reflection, tomato, 2210
- fuel cell**, artificial heart pacemaker, bioenergy, magnesium, platinum, power supply, 3459
 - oxygen, test, reliability, 1810

function generator, 197

- analog computer, half life time, exponential function, 1406
- digital method, 219
- dual slope control, 2951
- hazard free, 535
- integrated circuit, 2558
- positive function, 2549
- square wave generator, 1748
- staircase generator, 2134
- thermometer, direct proportional, inverse proportional, absolute temperature, 975
- waveform generator, staircase, 216

fusimotor muscle fiber, gamma system, model, muscle spindle, muscle spindle afferent nerve, muscle spindle afferent nerve group ia, 1274

gait, digital computer, television, walking, image processing, cdc 1700, 1981

- locomotion, model, walking, 1272
- locomotion, walking, shoe, 1580
- walking, simple recording method, 3751

galvanic skin response, motion sickness, sweat, sweating, sweat sensor, 2366

- sleep, measuring method, 2313

gamma counting, fluorescence, half life time, 3407

gamma detection, beta detection, beta radiation, gamma radiation, needle, solid state detector, 306

- beta detection, beta radiation, dosimetry, gamma radiation, semiconductor detector, li si, implantable dosimeter, 316

-gamma radiation, semiconductor detector, efficiency, local variation, ge li, 1062

-gamma radiation, proportional counter, properties, 2223

gamma radiation, alpha radiation, semiconductor detector, cd te resistance, 1836

- alpha radiation, radiation, radiation detection, nuclear radiation, semiconductor detector, ge si alloy, 2218

-alpha radiation, digital computer, spectrometry, semiconductor detector, 3027

-alpha radiation, semiconductor detector, cdte, 3028

-ampulla, scintillation counting, source displacement, 3030

-beta detection, beta radiation, gamma detection, needle, solid state detector, 306

- beta detection, beta radiation, dosimetry, gamma detection, semiconductor detector, li si, implantable dosimeter, 316

-beta radiation, computer, data processing, digital computer, spectrometry, 736

-brems radiation, scintillation counting, monoenergetic radiation, response, 1495

-bone, cobalt 60, dosimetry, electron spin resonance, powder, radiotherapy, thermoluminescence, bovine, deproteinized bone powder, 1589

-cosmic radiation, dosimetry, back ground reduction, 311

-cobalt 60, photomultiplier, scintigraphy, leading edge, 313

-cobalt 60, roentgen radiation, spectrometry, scintillator, calibration scheme, 728

-cobalt 60, pulse height analysis, time amplitude converter, non linear pulse height, 732

-cesium 137, cobalt 60, computer program, mercury 203, disc source, self absorption, 738

-cobalt 60, dosimetry, radiotherapy, farmer secondary standard range extension, 831

-computer model, scintillation camera, scintillation counting, conization chamber, performance test, 1148

-computer, scintigraphy, scintillation camera, scintillation counting, count rate loss correction, 1149

-cobalt 60, radiotherapy, cobalt therapy, rotational source, tosheba rcr 120 c1, 1584

-computer, dosimetry, radiotherapy, sievert integral, recursive formula, 1606

-computer, dosimetry, roentgen dose distribution, roentgen radiation, 1616

-coincidence counting, timer, semiconductor detector, ge hi, 2219

-cesium 137, cobalt 57, cobalt 60, manganese 54, mercury 203, sodium 22, tantalum 182, semiconductor detector, americum 241, yttrium 88, calibration, 2693

-cesium 137, 3033

-collimator, scintigraphy, scintillation camera, technetium 99m, modulation transfer function, 3344

-cobalt 60, dosimetry, filter, lead, radiotherapy, uterine cervix, uterine cervix carcinoma, cancer, 3514

-dosimetry, linear energy transfer, lithium fluoride dosimeter, model, roentgen radiation, thermoluminescence, non linearity, 304

-dosimetry, neutron radiation, radiotherapy, thermoluminescence, ca so₄, tm, 834

-dosimetry, glow curve, automatic measurement, 3430

-gating circuit, radiation detection, scintigraphy, pulse shape discrimination, integrator, semiconductor detector, 315

-gamma detection, semiconductor detector, efficiency, local variation, ge li, 1062

-geiger mueller counter, detection efficiency, 2217

-gamma detection, proportional counter, properties, 2223

-geiger mueller counter, ionization, low volatility molecule, ionization potential, 2924

-heavy particle radiation, scintillation counting, scintillator, thin film detector, fabrication, 2199

-half life time, 3272

-iodine 125, radiotracer, telemetry, implantation, albumin i 125, rabbit, 1497

-neutron radiation, short lived activity, 1837

-neutron radiation, radiography, roentgen radiation, biomedical application, 2694

- neutron radiation, low energy gamma radiation, neutron capture, 3270
- plaster, plastic, scintillator, plastic scintillator, lead loaded, 2221
- radiation monitoring, 5-10 mev, 309
- roentgen camera, roentgen radiation, scintillation camera, image processing, multiple pinhole camera, 1058
- radiation hazard, radiation monitoring, radiation protection, roentgen radiation, 1489
- radiation, photomultiplier, scintillation counting, pulse shape, 2696
- scintillator, loaded scintillator, 314
- scintillator, white oil, efficiency, 731
- scintillator, alkali halide activated, 733
- spectrometry, correction system, 1063
- scintillation counting, response function, 1491
- spectrometry, semiconductor detector, ge hi, coincidence spectrometer, 1493
- semiconductor detector, coaxial ge hi detector, disc source, efficiency, 1839
- spectrometry, time, time measurement, digital system, 2226
- scintillation counting, spectrometry, hodoscope spectrometer, 3031
- semiconductor detector, efficiency, ge li, 0.04 to 11 mev, 3427
- scintillation counting, spectrometry, radiation absorption, 3684
- time measurement, semiconductor detector, ge li, timing system, 1021
- timer, semiconductor detector, si detector, ge (li) detector, 2698
- gamma system**, analog computer, computer model, movement, muscle spindle, 2431
 - fusimotor muscle fiber, model, muscle spindle, muscle spindle afferent nerve, muscle spindle afferent nerve group ia, 1274
- gas**, analyzer, gas analysis, microanalyzer, opto acoustical analyzer, characteristics, 1008
 - artificial ventilation, connector plug, wrong connection, 1891
 - artificial ventilation, engstroem respirator, lung model, lung ventilation, different respirator settings, 2041
 - cell, mathematic model, model, tissue, gas diffusion, inert gas, heterogeneous tissue, 1298
 - chemical kinetics, solved reactants, 3377
 - light absorption, photometer, ultraviolet radiation, liquid, 1045
 - mathematic model, tissue, gas diffusion, inert gas, heterogeneous tissue, without perfusion, 1297
 - pump, circulation pump, non contaminating, 687
 - paramagnetic resonance, gas phase cavity, 2688
 - sound, sound absorption, poly atomic gas, 2231
- gas absorption**, infrared radiation, temperature, vacuum, 3018
- gas analysis**, analyzer, gas, microanalyzer, opto acoustical analyzer, characteristics, 1008
 - blood gas, carbon dioxide tension, oxygen tension, ph, review, 2634
 - body plethysmography, computer, computer program, lung alveolus, spirometry, 3560
 - data processing, 330
 - gas exchange, lung diffusion, mass spectrometry, miniature system, 2990
 - polynomial equation, calibration, 2198
- gas bubble**, artificial ventilation, blood flow, erythrocyte, gas embolism, oxygenation, respiration, rheology sound, 3602
 - blood, circulation, gas embolism, model, plasma, gas diffusion, chemical reaction, 1301
 - mathematic model, gas pocket, dissolution dynamics, 928
- gas chromatography**, body fluid, carbon dioxide, 102 determinations, glc, 2991
 - blood gas, rapid measurement, 2992
 - computer, siemens 300, 450
 - computer, 451
 - computer, mulheim, 452
 - computer, time sharing, 453
 - computer, 454
 - computer, 455
 - computer, 456
 - computer, data processing, retrieval, 457
 - computer, interfacing, 458
 - computer, integrator, 459
 - computer, hewlett packard, 460
 - computer, prag system, 461
 - computer, 462
 - computer, 1166
 - computer, 1167
 - chemotracer, chemical kinetics, 2616
 - helium, helium detector, 256
 - herbicide, radiation protection, insecticide agent, electron capture detector, 747
 - portable, 1013
 - spectrometry, mpd 850, 3376
- gas diffusion**, blood, circulation, gas embolism, model, plasma, gas bubble, chemical reaction, 1301
 - cell, gas, mathematic model, model, tissue, inert gas, heterogeneous tissue, 1298
 - gas, mathematic model, tissue, inert gas, heterogeneous tissue, without perfusion, 1297
- gas embolism**, artificial ventilation, blood flow, erythrocyte, oxygenation, respiration, rheology, sound, gas bubble, 3602
 - blood, circulation, model, plasma, gas bubble, gas diffusion, chemical reaction, 1301

gas exchange, artificial kidney, blood flow, improved gas exchange, pumpless artificial organ, 2304
 -bohr shift, carbon dioxide, lung capillary, oxygen, haldane effect, 3478
 -computer, exercise test, lung ventilation, metabolism, respiration, breath by breath analysis, 1979
 -computer model, heart output, lung diffusion, lung model, lung ventilation, nitrogen, 3254
 -gas analysis, lung diffusion, mass spectrometry, miniature system, 2990
gas flow, flowmeter, dynamic calibration, 1028
gas flow measurement, interferometer, chemical kinetics, ultrasonic speed, 1026
gas meter, anesthesia, anesthetic gas, narkotest, 1940
gas mixing, anesthesia, nitrous oxide, oxygen, quantiflex monitored dial mixer, 3143
gas pocket, mathematic model, gas bubble, dissolution dynamics, 928
gastrointestinal tract, computer program, digital computer, radiology, 470
 -endoscopy, fiberoscope, review 1972, 1858
 -endoscopy, forceps, polyp, flexible forceps, 3535
 -stapler, soviet ukl 60 uus 23, 1154
gastroscopy, camera, photography, upper stomach part, 1518
 -fiberscope, photography, extra and intragastric cameras, 3050
gas volume, oxygen consumption, simplified method, 1851
gating, nuclear magnetic resonance, double resonance, 3417
gating circuit, 100 ps delay, 1379
 -gamma radiation, radiation detection, scintigraphy, pulse shape discrimination, integrator, semiconductor detector, 315
 -nerve cell potential, pulse height analysis, nervous system, window pulse height discriminator, 785
gauge, motion picture, liquid, 270
 -manometer, mcleod, organic liquid, 1431
geiger mueller counter, flame detector, detector, 1425
 -gamma radiation, detection efficiency, 2217
 -gamma radiation, ionization, low volatility molecule, ionization potential, 2924
gel, coating, fluoride, fluoride sodium, fluorophosphate sodium, coating vs gel, 3567
 -model, diffusion, concentration, chemical kinetics, concentration equation, 1239
gelatin, model, nuclear magnetic resonance, proton, agarose, 2101
gene, mathematic model, 515
general practice, computer, data processing, morbidity, simplified data input, 2396
 -computer, medical record, 2817
general practitioner, computer, 2392
generator, 995, 1007
 -amplitude control, 202
 -active filter, negative resistance, design, 609
 -active filter, negative resistance, stability, 610
 -active filter, negative resistance, 2142
 -amplitude modulator, no effect of transient, 3309
 -analog computer, negative resistance, stable negative resistance, 3318
 -crystal, 150 mh2, 977
 -differential amplifier, microvolt signal generator, 1742
 -electron microscopy, hollow cone illumination, sine cosine generator, 3664
 -harmonic oscillator, 2559
 -integrated circuit, ttl compatible, 1374
 -locked oscillator, efficiency, 3636
 -magnet, nuclear magnetic resonance, tunnel diode, 2690
 -mathematic model, mechanoelectric transducer, membrane, transducer, 3587
 -negative resistance, design, 1368
 -negative resistance, current control, 1750
 -nerve cell potential, stimulator, visual stimulation, moving stimulus, 3509
 -pulse generator, current control, 2948
 -resistance capacitance generator, wien robinson bridge, 198
 -semiconductor, analysis, 2560
 -timer, stable crystal oscillator, 3668
genetic analysis, fertility, genetics, mathematic model, population, statistics, self fertilized population, rice wheat, 2014
genetics, aminoacid, model, statistics, taxonomy, alpha globin, dendrogram, network, chicken, 2842
 -breeding, model, process control, statistics, selection differentials, animal, plant, 2015
 -computer program, immunology, tissue typing, 852
 -computer, education, 1203
 -chromosome, computer, cytogenetics, karyotype, karyotyping, usefulness, 1969
 -carcinogenesis, cybernetics, fertilization, information, model, regeneration, 3226
 -death, mathematic model, model, population, statistics, disease, disease liability, recurrence risk, 2010
 -fertility, mathematic model, population, statistics, genetic analysis, self fertilized population, rice wheat 2014
 -genotype, genetic information, identity coefficient between relatives, 2855
 -metabolism, model, protein synthesis, ribonucleic acid synthesis, thermodynamics, theory, 2052
 -model, molecule, statistics, taxonomy, beta globin, dendrogram, network, 2841
 -population, autonomous state classifier, 895
 -population, geography, 3224
genotype, genetics, genetic information, identity coefficient between relatives, 2855

geography, genetics, population, 3224

germanium, alternating current, direct current, resistance thermometer, thermometer, cryogenics, 3384

- cobalt 60, semiconductor detector, large volume detector, 1494
- infrared radiation, silicone, 3404

germanium lithium detector, neutron radiation, radiation detection, fast neutron flux, 1502

gingiva, oxygen tension, oxygen tension electrode, measurement, 2993

- tooth, morphology, 1521

glare, vision, disability glare, population study, 2891

glass, bone, ceramic, implantation, microscopy, fixation to bone, rat, 1637

- coating, microelectrode, platinum, tungsten, 275
- ceramic, polyalanine, epitaxy, 498
- ceramic, soft tissue, toxicity, corrosion, implantation, subcutis, biocompatibility, histology, electron microscopy, rat, 1639
- holography, image processing, photochromic glass, 1390
- light scattering, fabrication, turbidity standard, light scattering simulator, 1040

glass electrode, brain depth recording, microelectrode, micropipette, brain depth stimulation, brain depth injection, electrolyte leakage, 791

- colon tenia, fet semiconductor, ph electrode, sodium electrode, ion sensitive fet, guinea pig, 1509

glia cell, brain steady potential, electroencephalography, electrooculography, electroretinography, nerve cell potential, ph, sodium, 1708

- cytoplasm, electrostimulation, nerve cell, nerve fiber, ribonucleic acid, lysine h 3, tritium uridine, incorporation, tritonia, 1558

alpha globin, aminoacid, genetics, model, statistics, taxonomy, dendrogram, network, chicken, 2842

beta globin, genetics, model, molecule, statistics, taxonomy, dendrogram, network, 2841

glomerulus filtration rate, glucose, kidney perfusion, mathematic model, sodium, kidney tubule absorption rat, perfusion, 116

glow curve, dosimetry, gamma radiation, automatic measurement, 3430

- thermoluminescence, simplified calculus, 911
- thermoluminescence, nuclear radiation, differential equation, numerical solution, 1812

glucose, computer model, digital computer, glucose tolerance test, insulin, mathematic model, 1996

- carbon dioxide, computer program, glycolysis, lactic acid, metabolism, pyruvic acid, warburg apparatus, 3158
- glomerulus filtration rate, kidney perfusion, mathematic model, sodium, kidney tubule absorption, rat, perfusion, 116

glucose c 14, albumin iodine i 131, transfer time, 903

glucose tolerance test, computer model, digital computer, glucose, insulin, mathematic model, 1996

glucoside, computer, computer program, digitoxin, digoxin, digitalis intoxication, dose kidney function relation, drug dose, 2417

glue, cement, cyanoacrylate, dentistry, polymer, adhesive agent, 3565

glutaraldehyde, erythrocyte, shear stress, 761

- muscle contraction, muscle fiber, roentgen diffraction, myosin filament, structural changes, 2784

glycerol, adenosine triphosphatase, muscle fiber, muscle relaxation, sarcomere, rabbit, 545

- cooling, lysosome, microsome, mitochondria, thermoluminescence, 2006
- muscle, muscle fiber, myosin, roentgen diffraction, rabbit, 3130

glyceryl trinitrate, coronary artery flow, heart ventricle compliance, left heart ventricle, left heart ventricle pressure, left heart ventricle volume, sinusoidal forcing function, dog, 1536

glycolysis, allosteric enzyme, oscillation, phosphofructokinase, enzyme, chemical kinetics, glycolytic oscillation, 888

- carbon dioxide, computer program, glucose, lactic acid, metabolism, pyruvic acid, warburg apparatus, 3158
- mathematic model, key step regulation, 2846

gold, electrode, electroencephalography, iridium, platinum, metal, palladium, rhodium, comparison, 392

golgi apparatus, endoplasmic reticulum, iodine 131, microwave radiation, protein bound iodine, thyroid gland, ultrastructure, animal, 3683

golgi tendon receptor, knee, quadriceps jerk reflex, tibia, control system, grasshopper, 2311

goniometer, electron spin resonance, crystal, single crystal, 2692

goniometry, joint, shoulder, measurement equipment, 2353

gonorrhea, growth, mathematic model, model, 2862

gramicidin a, calcium, cell contact inhibition, model, bimolecular membrane, membrane fusion, 1995

granulocyte, dose response, macrophage, model, population, data processing, model, dose response curve, colony stimulating factor, 2845

graph, atherosclerosis, computer, shear stress, pathogenesis, 1975

- atherosclerosis, computer, heart valve prosthesis, hemodynamics, 2822
- digital computer, display system, interactive display, honeywell ddp 16, 1361

graphite, carbon, painting, heater, colloidal graphite, 2627

- lead, neutron radiation, 1503

gravitational stress, centrifuge, seat reaction direction, monkey, 2367

- cell membrane permeability, mathematic model, water, compartment model, calculation, 3579

gravity, body posture, electrostimulation, labyrinth, vestibular system, 60

- body posture, statokinesimetry, 1127
- displacement, lung, lung alveolus, lung expansion, mathematic model, pleura, thorax pressure, finite element displacement analysis, 3672

green, green light source, 503

growth, bone, femur, immobilization, tibia, vibration, age, bone piezoelectric potential, 132
 -bone, calcium, elasticity, femur, tibia, vibration, rat, mechanical vibration, 823
 -bone, femur, titanium, aluminum oxide,
 2-8 weeks implantation, cylindrical channels, electron microprobe, dog, 1638
 -behavior, electric field, food intake, magnetic field, motor activity, young chicken, 2642
 -cell culture, cell division, mathematic model, dispersionless growth, 537
 -computer, face, radiography, skull, morphometrics, 1974
 -cell, mitochondria, electron microscopy, chinese hamster cell, 2004
 -cell culture, hela cell, hydrocortisone, monitoring, 3279
 -eye, refraction, visual system, rabbit, 2347
 -gonorrhea, mathematic model, model, 2862
 -model, photography, mouse, 331
 -mathematic model, plant, 1643
growth rate, statistics, bayesian estimate, 2854
gun, paracentesis, device, rabbit, 3536
gynecology, computer, electrocardiography, medical record, mark sense form, 481
 -radium applicator, 425

hair cell, cochlea, hearing, mechanoreceptor, potassium, lateral line system, fish, mechanosensitivity, 555
 -cochlea microphonic potential, corti organ, endolymph, middle ear, endolymphatic pressure, review, 801
 -cochlea microphonic potential, mathematic model, guinea pig, 1725
 -cochlea, cochlea microphonic potential, cochlear nerve, latent period, nerve potential, guinea pig, 1921
 -nerve fiber, sound stimulation, cricket, 1919
haldane effect, bohr shift, carbon dioxide, gas exchange, lung capillary, oxygen, 3478
half life time, analog computer, function generator, exponential function, 1406
 -counter, luminescence, photon counter, 1438
 -fluorescence, pulse generator, time marker, exponential increasing interval, 209
 -fluorescence, gamma counting, 3407
 -gamma radiation, 3272
halide, elasticity, apatite, 492
halogen lamp, discharge, eye, infrared radiation, laser, light, radiation hazard, retina, ultraviolet radiation
 lesion, lamp, evaluation, 3746
halothane, anesthetic equipment, cyclopropane, ether, methoxyflurane, rubber, drug absorption, 372
 -analog computer, blood pressure, brain blood flow, computer model, lung alveolus, drug distribution,
 in vitro study, 434
 -anesthesia, anesthetic equipment, small animals, 843
 -anesthesia, filter, adsorption capacity, dragerfilter no 633, 2374
 -anesthesia, aorta flow, aorta pressure, artery pulse, blood pressure, electroencephalography,
 heart muscle oxygen consumption, heart output, heart rate, 2423
 -anesthesia, apparatus, rabbit, 3142
 -anesthesia, artificial ventilation, heart rate, monitoring, feedback system,
 feed back monitoring, apparatus, 3530
 -blood pressure, dose response, systems analysis, dog, 350
hand, amputation, prosthesis, 1125
 -movement, writing, recording, 1926
 -myoelectric control, prosthesis, 2779
 -task performance, eye hand control, hand position recording, 2333
hand prosthesis, electric prosthesis, influenza, powered prosthesis, feedback system, 2355
harness, electrode, connector plug, rat, 1565
hazard, medical instrumentation, responsibility, 3563
head, brain depth recording, clamp, electrode implantation, restraining device, stereotaxic implantation,
 rat, 1552
 -brain, neck, isolation method, anatomy, dog, 2769
 -body movement, trunk, walking, translational motion, 3132
 -impact, model, head model, 2473
 -roentgenology, stereotaxic device, stereotaxic implantation, head horizontal placing, 1112
head and neck cancer, cancer, cryoprobe, cryosurgery, inexpensive cryoprobe, 2380
head model, head, impact, model, 2473
head movement, detection and recording system, 2357
 -electrostimulation, inferior colliculus, brain depth stimulation, effectiveness increase, cat, 3096
head phone, audiometry, magnetic earphone, wharfedale, 3280
 -audiometry, hearing, hearing aid, coupler vs real ear, earphone, 3433
head rest, microsurgery, ophthalmology, 443
health care, model, public health, cost minimization, 1260
health program, computer, data processing, health service, data bank, 1159
health screening, computer, japan, 3148
 -public health, non automated system, multiphasic screening system, 1595
health service, attitude, computer, mathematic model, therapy, 3153
 -computer, data processing, health program, data bank, 1159
 -computer, computer center, 2388
 -electroencephalography, telephone telemetry, leipzig area, 3726

-standardization, 1070

hearing, averaging, ear drum, holography, vibration, cat, time averaged holography, 92

-auditory masking, signal frequency, uncorrelated noise, 93

-auditory masking, binaural hearing, contralateral masking, signal detection, 96

-auditory masking, binaural hearing, phase discrimination,

correlated noise, uncorrelated noise, interaural phase difference, 554

-amplitude modulator, loudness, loudness discrimination, gold fish, amplitude modulated signals, 805

-auditory masking, harmonics, monaural phase effects, 920

-acoustic nerve, auditory masking, cochlea nucleus, signal detection, superior olive, sound perception, central auditory masking, theory, 921

-audiometry, 8000-18000 hz, recommended threshold levels, 1284

-auditory masking, signal processing, nonlinear system, combination tone, 1286

-acoustic reflex, threshold, 1676

-auditory masking, noise, combination tone, non linear system, combination bands, level, 1680

-auditory masking, combination tone, non linear system, even order combination band, 1681

-auditory masking, binaural hearing, loudness discrimination, phase discrimination, three listening conditions, 1685

-auditory discrimination, auditory masking, binaural hearing, directional hearing, time discrimination, sound detection, 1692

-auditory masking, sound, signal noise ratio, critical band width, critical masking interval, 1693

-auditory masking, noise, sound, combination tone, nonlinear system, combination, band level, 2055

-auditory masking, binaural hearing, signal noise ratio, phase discrimination, 2057

-acoustic nerve, auditory masking, loudness, nerve potential, sound,

man, postmasking recovery, external meatus electrode, 2058

-audiometry, bone conduction, cochlea microphonic potential,

rabbit, long term observation, round window electrodes, 2337

-auditory discrimination, spectral sensitivity, bees, 2771

-auditory discrimination, behavior, memory, pattern recognition,

auditory display, multidimensional coding, 2883

-audiometry, computer program, digital computer, hearing threshold, snap pdp 8 computer, 3184

-auditory masking, binaural hearing, sound lateralization, phase discrimination, 3241

-auditory masking, electrocardiography, heart rate, heart sound, noise, 100 hz stimulus, valve closure, 3242

-audiometry, hearing aid, head phone, coupler vs real ear, earphone, 3433

-binaural hearing, directional hearing, sound detection, lateral source, 86

-binaural hearing, signal detection, phase discrimination, 95

-basement membrane, ear drum, vibration, mossbauer effect, amplitude, phase, monkey, 99

-binaural hearing, frequency discrimination, loudness discrimination, 552

-binaural hearing, loudness enhancement, contralateral stimulation, 1678

-basement membrane, cochlea, computer model, loudness, model, band pass noise stimulus, 1679

-binaural hearing, loudness discrimination, 1682

-binaural hearing, brain, dichotic listening, hemispheric dominance, speech, ear dominance, verbal stimuli, non verbal stimuli, 2877

-basement membrane, cochlea, mathematic model, model, 2884

-binaural hearing, directional hearing, terminology, 3124

-cochlea, computer, computer model, digital computer, model, cochlear partition, hybrid computer model 91

-cochlea, mechanoreceptor, potassium, hair cell, lateral line system, fish, mechanosensitivity, 555

-cochlea, high level sound, rodents, distortion components, 1283

-conduction deafness, deafness, ear drum, review, 1570

-cochlea, cochlea microphonic potential, evoked cortical response, evoked acoustic nerve response, chinchilla, 1677

-computer program, digital computer, speech, pattern recognition, segment classification, 2724

-cochlea microphonic potential, guinea pig, two tone interaction, 2882

-caloric vestibular test, magnetic field, microwave radiation, semicircular canal, vestibular system, 3126

-distortion, monaural hearing, 88

-distortion, monaural hearing, phase discrimination, $f_2 - f_1$, $2f_1 - f_2$, 89

-deafness, driver licence, hypacusis, traffic, evoked acoustic nerve response, 411

-discrimination, sound, complex sound recognition, 788

-deafness, noise, personality, review, 814

-deafness, medical education, 820

-deafness, medical education, 821

-deafness, speech, tactile sensitivity, touch, pitch control, 822

-deafness, industrial health service, occupational deafness, 1913

-digital computer, sound, pattern recognition, listener computer cooperation, 1952

-directional hearing, sound detection, median plane, 2881

-directional hearing, information, sound detection, uncertainty relation, 3244

-directional hearing, diver, diving, sound detection, underwater hearing,

minimum audible angle, underwater, 3600

-directional hearing, low frequency transient, high frequency transient, 3604

-deafness, driver licence, hypacusis, traffic, vestibular system, evoked acoustic nerve response, 3739

-evoked cortical response, hemisphere, hemispheric dominance, noise, evoked acoustic nerve response, verbal input, non verbal input, 1109

- ear protection, ear trauma, 30 protectors, 2886
- environmental health, laser, noise, sound, environmental noise, 3437
- frequency discrimination, leading tone, trailing tone, frequency discrimination, 94
- frequency discrimination, signal noise ratio, signal compression, 2481
- frequency discrimination, information, signal, 2880
- hearing threshold, noise, vibration, 401
- hearing threshold, music, rock and roll music, tts, recovery patterns, 402
- hearing threshold, tone, carp, 1922
- hearing threshold, 2885
- hearing threshold, model, sound, stimulus integration, 3599
- intelligibility, peak clipping, threshold crossing, 559
- industrial health service, noise, task performance, noisy environment, 816
- industrial health service, industrial noise, sound level measurement, specification, osha regulation, 3690
- loudness, masking, perception, sound perception, 556
- loudness, motion sickness, reaction time, vision, visual illusion, auditory reaction time, 1117
- music, pattern recognition, sound perception, 97
- masking, temporal integration, 551
- mathematic model, music, 1122
- model, display system, man machine interaction, 1245
- memory, short term memory, speech, pattern recognition, 1683
- music, speech, pitch discrimination, frequency transition, 2478
- music, speech, pattern recognition, intelligibility, complex sound, 2887
- music, sound, ear trauma, sound level measurement, rock and roll, 3747
- noise, vibration, diesel engine, 3112
- perception, pitch perception, 87
- psychophysical evidence, 90
- perception, temporal lobe, gold fish, temporal summation, 1285
- pitch perception, speech, pitch contours, automatic recognition, 1694
- speech, intelligibility, segment duration, just noticeable difference, rhythm, 85
- signal processing, non linear system, combination tone, psychophysics, cubic difference tone, 1287
- speech, vowel, 2060
- speech, vowel, signal noise ratio, consonant, vowel, consonant, 2479
- temporal discrimination, 553
- tape recording, subjective flutter, 633
- telephone, sound level measurement, loudness rating, 923
- task performance, vision, display system, man machine interaction, audio visual display, 3218
- hearing aid**, audiometry, hearing, head phone, coupler vs real ear, earphone, 3433
 - battery, small button cell, limitation, 165
 - deafness, manufacture, survey, 807
 - deafness, cochlea deafness, speech intelligibility, graded instantaneous compression, 812
 - deafness, history, 818
 - deafness, ear lobe, frequency characteristic, open mold, 1119
 - deafness, hypacusis, telephone, intelligibility, telephone characteristics, 1508
 - hypacusis, pitch perception, perception deafness, 3504
 - perception deafness, ear trauma, 3123
 - pocket h 50, 3741
- hearing threshold**, audiometry, computer program, digital computer, hearing, snap pdp 8 computer, 3184
 - hearing, noise, vibration, 401
 - hearing, music, rock and roll music, tts, recovery patterns, 402
 - hearing, tone, carp, 1922
 - hearing, 2885
 - hearing, model, sound, stimulus integration, 3599
- heart**, alternating current, blood pressure, electrostimulation, rat, rabbit, near heart stimulation, 351
 - blood sampling, heart puncture, bleeding, restraining device, collapsible device, rabbit, 3457
 - densitometry, heart size, television, 1528
 - electrocardiography, dipole model, addenda to calculation, 1322
 - elasticity, heart ventricle pressure, heart ventricle volume, mathematic model, heart muscle contractility, force velocity relation, 2043
 - electric field, electrocardiography, mathematic model, generators, 3069
 - heart muscle conduction system, heart fibrillation, heart rate, vagus nerve, origin and fibrillation arrest, 2743
 - heart muscle contractile force, heart movement, radiology, vibration, water immersion, cat, 3708
- heart arrhythmia**, analog computer, electrocardiography, heart fibrillation, monitoring, anomalous beat detection, 3171
 - blood pressure, breathing rate, digital computer, electrocardiography, heart output, monitoring, small computer, 1188
 - computer program, diagnosis, electrocardiography, heart rate, electrocardiography, 472
 - computer program, diagnosis, digital computer, electrocardiography, 859
 - computer, electrocardiography, heart rate, mathematic model, monitoring, clinical use, 1185
 - computer, electrocardiography, 2408
 - computer, electrocardiography, heart ventricle, lidocaine, monitoring, ouabain, phenytoin, mouse, 2801
 - computer, hybrid computer, qualitative analysis, 2814
 - computer, electrocardiography, analysis, 3174

- digital computer, electrocardiography, heart rate, analog preprocessor, rr interval, r wave watts, 3168
- electrocardiography, mathematic model, 367
- electrocardiography, monitoring, scattergram, 845
- electrostimulation, heart atrium, heart muscle, development, frog, 1527
- excitation, syncytium, multicomponent excitable medium, 2735
- electrocardiography, sport, telemetry, 3649
- vagus nerve, heart muscle excitability, conducting corridor, 2265
- heart atrioventricular block**, computer, electrocardiography, heart disease, heart infarction, 2409
- heart atrioventricular conduction**, electrocardiography, heart muscle conduction system, mathematic model, rat, model, 2492
 - heart muscle conduction system, his bundle potential, exposure method, dog, 2745
- heart atrioventricular node**, heart muscle conduction system, heart muscle, heart muscle potential, model slow conduction, 2276
- heart atrium**, analog computer, atropine, averaging, electrocardiography, heart block, 993
 - electrostimulation, heart arrhythmia, heart muscle, development, frog, 1527
- heart block**, analog computer, atropine, averaging, electrocardiography, heart atrium, 993
 - electrocardiography, mathematic model, wenckebach period, 943
- heart catheterization**, angiography, computer, electrocardiography, monitoring, hewlett packard, 3188
 - aorta pressure, blood pressure, exercise, heart ventricle pressure, lung artery pressure, telemetry, 3652
 - blood pressure, data processing, densitometry, fluoroscopy, roentgenography, television, display system, patient identification, 2 d representation, 1101
 - blood pressure, computer, lung artery pressure, lung vein pressure, lung wedge pressure, children, 2821
 - blood pressure, integrated circuit, pressure transducer, 2931
 - femoral vein, lung wedge pressure, right heart, percutaneous catheterization, 1097
 - heart right ventricle, chronic catheter design, dog, 2287
- heart conduction system**, computer model, mathematic model, numerical simulation, dog, 768
 - heart muscle cell membrane, hodgkin huxley equation, 1722
- heart cycle**, aorta, artery, artery flow, atherogenesis, hemodynamics, arterial location, dog, 2485
- heart defibrillation**, cardioversion, energy, indicated and delivered energy, 776
 - comparative analysis, 2270
 - cardioversion, efficacy, truncated exponential discharge, dog, 2741
 - different types, testing, 3706
 - performance evaluation, 1091
- heart disease**, blood pressure, diagnosis, heart model, heart rate, left heart ventricle, peripheral vascular resistance, heart muscle contractility, control system, 357
 - blood pressure, body temperature, electrocardiography, phonocardiography, respiration, telemetry, neurotransmitter, multichannel system, 3330
 - blood pressure, central nervous system, computer, computer model, diagnosis, heart rate, 3775
 - computer, electrocardiography, heart atrioventricular block, heart infarction, 2409
- heart electric field**, body, electric field, electrocardiography, mathematic model, polynomial function, 2079
 - computer model, homogeneous tridimensional environment, 2906
 - electrocardiography, structure of elementary generation, 1526
- heart failure**, aorta flow, edema, energy transfer, heart work, left heart ventricle, mathematic model, 1094
 - chronic disease, computer, diagnosis, model, prognosis, symptom, aorta incompetence, 2810
- heart fibrillation**, analog computer, electrocardiography, heart arrhythmia, monitoring, anomalous beat detection, 3171
 - heart rate, heart pacing, nonuniformity measurement, cat, 2269
 - heart, heart muscle conduction system, heart rate, vagus nerve, origin and fibrillation arrest, 2743
- heart infarction**, blood pressure, fiberoscope, heart output, heart rhythm, oxygen saturation, 765
 - blood, plasma, rheology, thrombocyte aggregation, viscosity, shear stress, 1863
 - computer, electrocardiography, heart atrioventricular block, heart disease, 2409
 - carbon dioxide tension, heart muscle, oxygen consumption, oxygen tension, heart muscle blood flow, recording device in focal areas, dog, 3070
 - computer, computer program, coronary care unit, ischemic heart disease, display, man machine interaction, midas program, 3186
 - cardiogenic shock, angiocardiology, extracorporeal circulation, ischemic heart disease, open heart surgery, oxygenation, aorta balloon pump, aortocoronary bypass graft, 4 patients, 3702
 - heart muscle, mathematic model, metabolism, oxygen consumption, heterogeneous permeability, 753
- heart left ventricle**, blood flow, model, left heart ventricle pressure, heart left ventricle ejection, parameter, 2904
 - elasticity, heart model, heart ventricle, mathematic model, heart left ventricle enddiastolic volume, 2869
 - heart muscle, heart surgery, oxygen electrode, oxygen tension, heart right ventricle, human, 2195
 - mathematic model, stellate ganglion, inotropic response, heart left ventricle enddiastolic volume, 3596
- heart left ventricle ejection**, blood flow, heart left ventricle, model, left heart ventricle pressure, parameter, 2904
- heart left ventricle ejection time**, carotid artery pulse, electrocardiography, exercise, systole, atraumatic method, 3472
- heart left ventricle enddiastolic volume**, elasticity, heart model, heart ventricle, heart left ventricle, mathematic model, 2869
- heart left ventricle enddiastolic volume**, heart left ventricle, mathematic model, stellate ganglion, inotropic response, 3596
- heart left ventricle volume**, angiography, computer, videorecording, 2424
- heart lung machine**, extracorporeal circulation, design, small animals, 2733

heart model, blood pressure, diagnosis, heart disease, heart rate, left heart ventricle, peripheral vascular resistance, heart muscle contractility, control system, 357

- elasticity, heart ventricle, heart left ventricle, mathematic model, heart left ventricle enddiastolic volume, 2869
- heart muscle cell, left heart ventricle, mathematic model, geometrical parameters, 918
- heart muscle, left heart ventricle, mathematic model, composite material, 946
- left heart ventricle, mathematic model, model, heart muscle contraction, motion, 547

heart movement, echocardiography, functional interpretation, sonocardiokinetogram, modified method, 2268

- heart, heart muscle contractile force, radiology, vibration, water immersion, cat, 3708

heart muscle, artificial heart pacemaker, electrode, heart pacing, transvenous electrode, 369

- artificial heart pacemaker, regulated output, 1871
- analog computer, electrocardiography, isolated heart, function test, automated analysis, 2425
- bath, peltier effect, temperature, waterbath, isolated heart muscle, method, 1734
- chorda tendinea, elasticity, heart papillary muscle, heart valve, viscosity, mechanical properties, man, 1275
- coronary artery flow, coronary artery obstruction, coronary vascular resistance, oxygen consumption, standardized functional stenosis induction method, dog, 1878
- carbon dioxide tension, heart infarction, oxygen consumption, oxygen tension, heart muscle blood flow recording device in focal areas, dog, 3070
- cineangiocardiology, heart muscle contraction, regional heart muscle dynamics, 3468
- elasticity, model, hill model, heart muscle contraction, heart muscle contractility, cat, quick release, 1277
- electrostimulation, heart arrhythmia, heart atrium, development, frog, 1527
- extrasystole, model, heart ventricle arrhythmia, vulnerability, frog, 3059
- heart infarction, mathematic model, metabolism, oxygen consumption, heterogeneous permeability, 753
- heart model, left heart ventricle, mathematic model, composite material, 946
- heart muscle membrane, hodgkin huxley equation, nerve fiber, voltage clamp, sucrose gap, early current analysis, 1279
- heart surgery, heart left ventricle, oxygen electrode, oxygen tension, heart right ventricle, human, 2195
- heart atrioventricular node, heart muscle conduction system, heart muscle potential, model, slow conduction, 2276
- myosin, sliding filament theory, heart muscle contraction, force velocity relation, 2044

heart muscle blood flow, battery, scintillation counting, xenon 133, battery powered device, 3467

- carbon dioxide tension, heart infarction, heart muscle, oxygen consumption, oxygen tension, recording device in focal areas, dog, 3070

heart muscle cell, endocardium, epicardium, left heart ventricle, mathematic model, preload, 546

- heart model, left heart ventricle, mathematic model, geometrical parameters, 918

heart muscle cell membrane, heart conduction system, hodgkin huxley equation, 1722

heart muscle cell potential, cell culture, microelectrode, miniature array, 1096

heart muscle conduction system, electrocardiography, heart muscle potential, intracardiac electrocardiography, vagus nerve, dog, 2266

- electrocardiography, mathematic model, heart atrioventricular conduction, rat, model, 2492
- heart atrioventricular node, heart muscle, heart muscle potential, model, slow conduction, 2276
- heart, heart fibrillation, heart rate, vagus nerve, origin and fibrillation arrest, 2743
- heart atrioventricular conduction, his bundle potential, exposure method, dog, 2745

heart muscle contractile force, acetylcholine, calcium, fetus, noradrenalin, temperature, heart muscle contraction, measuring method, organ culture, mouse, 2731

- heart, heart movement, radiology, vibration, water immersion, cat, 3708

heart muscle contractility, analog computer, electrocardiography, measuring device, 767

- aorta, echocardiography, heart output, non invasive measurement, 1874
- blood pressure, diagnosis, heart disease, heart model, heart rate, left heart ventricle, peripheral vascular resistance, control system, 357
- elasticity, heart muscle, model, hill model, heart muscle contraction, cat, quick release, 1277
- excitable cell, model, excitable membrane, closed pathway formation, 1721
- elasticity, heart, heart ventricle pressure, heart ventricle volume, mathematic model, force velocity relation, 2043
- heart papillary muscle, model, hill model, cat, quick stretch, quick release, 1276

heart muscle contraction, acetylcholine, calcium, fetus, heart muscle contractile force, noradrenalin, temperature, measuring method, organ culture, mouse, 2731

- cineangiocardiology, heart muscle, regional heart muscle dynamics, 3468
- elasticity, heart muscle, model, hill model, heart muscle contractility, cat, quick release, 1277
- heart model, left heart ventricle, mathematic model, model, motion, 547
- heart muscle, myosin, sliding filament theory, force velocity relation, 2044
- heart ventricle, magnesium, temperature, mollusc, 3703

heart muscle excitability, heart arrhythmia, vagus nerve, conducting corridor, 2265

heart muscle hypertrophy, heart ventricle pressure, heart ventricle wall, mathematic model, sarcomere, 1095

heart muscle membrane, heart muscle, hodgkin huxley equation, nerve fiber, voltage clamp, sucrose gap early current analysis, 1279

heart muscle oxygen consumption, analog computer, computer model, hemodynamics, computing, 2260

- anesthesia, aorta flow, aorta pressure, artery pulse, blood pressure, electroencephalography, halothane, heart output, heart rate, 2423

- catheter, catheter pressure transducer, pressure recording, micromanometer, in vivo comparison, 2288
- first heart sound, frequency analysis, internally, externally, comparison, dog, 2275
- heart muscle potential**, catheter electrode, electrode, epicardium, dog, 1867
 - electrocardiography, mathematic model, genesis model, 934
 - electrocardiography, heart muscle conduction system, intracardiac electrocardiography, vagus nerve, dog, 2266
 - heart atrioventricular node, heart muscle conduction system, heart muscle, model, slow conduction, 2276
- heart output**, 1875
 - aorta flow, computer model, counterpulsation, heart ventricle pressure, hemodynamics, aorta balloon pump, 569
 - analog computer, computer, preejection period measurement device, 868
 - artificial heart, pump, dog, 1085
 - adrenalin, chlorpromazine, coronary artery flow, isoprenaline, left heart ventricle, propranolol, aorta balloon pump, dog, 1530
 - aorta, echocardiography, heart muscle contractility, non invasive measurement, 1874
 - anesthesia, aorta flow, aorta pressure, artery pulse, blood pressure, electroencephalography, halothane, heart muscle oxygen consumption, heart rate, 2423
 - assisted circulation, coronary artery flow, aorta balloon pump, improved system, dog, 2728
 - analog computer, densitometry, thermistor, thermometer, time delay, delay correction, 3185
 - aorta flow, aorta pressure, artery pulse, blood pressure, digital computer, electrocardiography, heart ventricle ejection, dog, 3187
 - analog computer, fluoroscopy, monitoring, 3558
 - blood pressure, fibroscope, heart infarction, heart rhythm, oxygen saturation, 765
 - blood volume, radiotracer, double tracer method, 766
 - blood pressure, breathing rate, digital computer, electrocardiography, heart arrhythmia, monitoring, small computer, 1188
 - blood flow, electromagnetic flowmeter, percutaneous measurement, baseline, 1541
 - blood, impedance, rheology, output determination, dog, 2272
 - blood flow, blood flowmeter, blood vessel, thermodilution curve, determination method, 3060
 - clinical measurement review, 361
 - computer, dow formule, fick method, dye, 27 cases, hamilton method, 869
 - catheter, thermistor, thermodilution curve, determination, detection site, 2730
 - chronic obstructive lung disease, computer, impedance plethysmography, plethysmography, spirometry, lung function, 3077
 - computer model, gas exchange, lung diffusion, lung model, lung ventilation, nitrogen, 3254
 - computer, fick method, thermodilution curve, method comparison, dog, 3783
 - dye dilution curve, compartment model, fast area estimation, 1092
 - dye dilution curve, compartment model, 2278
 - extracellular fluid, indicator dilution curve, lung edema, thermodilution curve, measurement method, dog, 3079
 - injection, thermodilution curve, indicator loss, correction factor, 2279
 - thorax impedance, calculation, 770
 - thermodilution curve, method, 2281
 - thermodilution curve, 2729
- heart pacing**, artificial heart pacemaker, electrode, 5 years experience, glasgow, 359
 - artificial heart pacemaker, electrode, heart muscle, transvenous electrode, 369
 - heart fibrillation, heart rate, nonuniformity measurement, cat, 2269
- heart papillary muscle**, chorda tendinea, elasticity, heart muscle, heart valve, viscosity, mechanical properties, man, 1275
 - model, hill model, heart muscle contractility, cat, quick stretch, quick release, 1276
- heart performance**, angiography, digital computer, image intensifier, roentgenography, television, biplane roentgenography, 1207
 - blood sampling, fowls, 2258
- heart perfusion**, fluorescence, oxygen tension, protein, pyridine, time sharing readout, frog, 355
- heart puncture**, blood sampling, heart, bleeding, restraining device, collapsible device, rabbit, 3457
- heart rate**, amnion, electrocardiography, fetus, monitoring, pressure, review, technic, 436
 - aviation, blood pressure, telemetry, electrocardiography, airplane crew, multichannel system, 2147
 - anesthesia, aorta flow, aorta pressure, artery pulse, blood pressure, electroencephalography, halothane, heart muscle oxygen consumption, heart output, 2423
- heart rate**, auditory masking, electrocardiography, hearing, heart sound, noise, 100 hz stimulus, valve closure, 3242
- heart rate**, aircraft, airplane crew, stress, telemetry, 3329
 - anesthesia, artificial ventilation, halothane, monitoring, feedback system, feed back monitoring, apparatus, 3530
 - blood pressure, homeostasis, 128
 - blood pressure, model, regulatory system, open loop gain, 129
 - blood pressure, diagnosis, heart disease, heart model, left heart ventricle, peripheral vascular resistance, heart muscle contractility, control system, 357
 - breathing rate, lung ventilation, skin temperature, traumatic shock, 1537
 - body temperature, diver, respiration, telemetry, transmitter, ultrasonics, multichannel system, 1772
 - blood pressure, bradycardia, industrial health service, skin temperature, vibration, 694 workers, switzerland, 1868

- blood flow, electrocardiography, rheology, telemetry, thorax, 3656
- blood pressure, central nervous system, computer, computer model, diagnosis, heart disease, 3775
- computer program, diagnosis, electrocardiography, heart arrhythmia, electrocardiography, 472
- computer, environmental health, monitoring, skin temperature, tape recording, data logger, computer compatible output, 486
- computer, electrocardiography, heart arrhythmia, mathematic model, monitoring, clinical use, 1185
- clothing, electrocardiography, electromyography, environmental health, ergometry, telemetry, thermogenesis, work, 3327
- digital computer, electrocardiography, heart arrhythmia, analog preprocessor, rr interval, r wave watts 3168
- digital computer, electroencephalography, fetus, intrauterine pressure, 3705
- electrocardiography, tape recording, display system, 971
- electrocardiography, exercise, cardiometer, 1084
- echocardiography, echography, fetus, monitoring, doppler effect, 1524
- electrocardiography, normal subjects, pr interval, 1529
- electric field, fish, telemetry, water temperature, noncontact sensing, trout, 3334
- fetus, monitoring, uterus, 2375
- fetus, labor, classification analysis, 3082
- hodgkin huxley equation, model, phase detection, vagus nerve, phase sensitive model, 2089
- heart fibrillation, heart pacing, nonuniformity measurement, cat, 2269
- hemodynamics, model, variable simulator, 2472
- heart, heart muscle conduction system, heart fibrillation, vagus nerve, origin and fibrillation arrest, 2743
- instrumental conditioning, orienting reflex, ekg recording, direct reading scale, beat by beat recording 1876
- integrated circuit, indicator, 2737
- model, vagus nerve, feedback system, warner model, 3072
- magnetic field, heart tape recorder, telemetry, 3651
- sport, telemetry, training, self training, 3654
- heart rhythm**, blood pressure, fiberoptic, heart infarction, heart output, oxygen saturation, 765
- heart right ventricle**, computer, newborn, vectorcardiography, 100 newborns, 2407
 - heart muscle, heart surgery, heart left ventricle, oxygen electrode, oxygen tension, human, 2195
 - heart catheterization, chronic catheter design, dog, 2287
- heart size**, densitometry, heart, television, 1528
- heart sound**, auditory masking, electrocardiography, hearing, heart rate, noise, 100 hz stimulus, valve closure, 3242
 - frequency analysis, hybrid computer, function of time and frequency, 1978
- heart surgery**, heart muscle, heart left ventricle, oxygen electrode, oxygen tension, heart right ventricle, human, 2195
- heart tape recorder**, ambulance, breathing rate, sport, telemetry, recording, electrocardiography, double channel telemetry, 3328
 - blindness, learning, high play back speed, 3501
 - blood pressure, display, analyser device, 3709
 - cardiovascular system, data processing, tape, 2273
 - computer program, nerve cell potential, multi unit sorting, superposition potentials resolution, 2426
 - computer, retrieval system, portable, 2818
 - computer program, frequency analysis, nerve cell potential, neurophysiology, intermediate tape storage 3190
 - cassette recorder, response, 3302
 - death, sudden death, telemetry, electrocardiography, 3326
 - electrocardiography, exercise, phonocardiography, test, voice, portable device, magnetic tape recorder, 3061
 - heart rate, magnetic field, telemetry, 3651
 - instrumentation recorder, time base error, 2538
 - modulator, frequency modulation, pulse ratio modulation, 2543
 - practical aspects, 2944
 - tape, cassette recorder, frequency response measurement, 2943
- heart valve**, blood flow, model, flow pattern, 1306
 - chorda tendinea, elasticity, heart muscle, heart papillary muscle, viscosity, mechanical properties, man 1275
 - fascia lata, heart valve prosthesis, hydrodynamics, in vitro, starr edwards prosthesis, comparative study 2047
- heart valve prosthesis**, adventitia, stellite 21, thrombosis, waxy contamination, 1090
 - atherosclerosis, computer, hemodynamics, graph, 2822
 - fascia lata, heart valve, hydrodynamics, in vitro, starr edwards prosthesis, comparative study, 2047
 - longevity of low profile, 762
 - lipid, silastic, 1089
- heart ventricle**, computer, electrocardiography, heart arrhythmia, lidocaine, monitoring, ouabain, phenytoin, mouse, 2801
 - elasticity, heart model, heart left ventricle, mathematic model, heart left ventricle enddiastolic volume 2869
 - heart ventricle pressure, manometer, implantation, micromanometer, dog, 1099
 - magnesium, temperature, heart muscle contraction, mollusc, 3703

heart ventricle arrhythmia, extrasystole, heart muscle, model, vulnerability, frog, 3059

heart ventricle compliance, coronary artery flow, glyceryl trinitrate, left heart ventricle, left heart ventricle pressure, left heart ventricle volume, sinusoidal forcing function, dog, 1536

heart ventricle defibrillation, computer, electrocardiography, digitalis intoxication, 3169

heart ventricle ejection, aorta flow, aorta pressure, artery pulse, blood pressure, digital computer, electrocardiography, heart output, dog, 3187

heart ventricle fibrillation, alternating current, medical instrumentation, threshold, dog, 1533

- electricity, electric shock, current density, dog, current density, man, 3469
- low energy, 11 cases, 1883

heart ventricle pressure, aorta flow, computer model, counterpulsation, heart output, hemodynamics, aorta balloon pump, 569

- aorta pressure, blood pressure, exercise, heart catheterization, lung artery pressure, telemetry, 3652
- elasticity, heart, heart ventricle volume, mathematic model, heart muscle contractility, force velocity relation, 2043
- heart muscle hypertrophy, heart ventricle wall, mathematic model, sarcomere, 1095
- heart ventricle, manometer, implantation, micromanometer, dog, 1099

heart ventricle systole, energy transfer, heart ventricle work, left heart ventricle, model, left heart ventricle pressure, left heart ventricle enddiastolic volume, left heart ventricle volume, concentric layer model, 1093

heart ventricle volume, elasticity, heart, heart ventricle pressure, mathematic model, heart muscle contractility, force velocity relation, 2043

- left heart ventricle, angiocardiology, automated background correction, 1873

heart ventricle wall, heart muscle hypertrophy, heart ventricle pressure, mathematic model, sarcomere, 1095

- left heart ventricle, 3 dimensional geometry, 370

heart ventricle work, energy transfer, left heart ventricle, model, heart ventricle systole, left heart ventricle pressure, left heart ventricle enddiastolic volume, left heart ventricle volume, concentric layer model, 1093

heart work, aorta flow, edema, energy transfer, heart failure, left heart ventricle, mathematic model, 1094

heat conduction, model, thermodynamics, peaceman rachford method, 548

heater, component selective heater, 1020

- carbon, painting, graphite, colloidal graphite, 2627
- controllability, 2713

heat flux, interferometry, 2671

heating, body temperature, radiology, infant, 3696

- microwave radiation, thermoreceptor, analysis, boa constrictor, 3500
- process control, thermostat, 1428

heat transfer, breast cancer, skin, thermodynamics, thermography, 14 carcinomas, intratumor and cutaneous infrared thermography, 1049

heavy particle radiation, counter, neutron radiation, helium 3, multiplicity counter, 712

- dosimetry, virus, enzyme, 709
- gamma radiation, scintillation counting, scintillator, thin film detector, fabrication, 2199
- semiconductor detector, over bias conduction, 1038

hela cell, cell culture, growth, hydrocortisone, monitoring, 3279

helicopter, environmental health, rotor tip, 3040

helium, argon, krypton, light, ultraviolet radiation, xenon, 2676

- cryogenics, switch, thermal switch, 1017
- forced expiratory volume, residual capacity, measurement, calculation, 3477
- gas chromatography, helium detector, 256
- model, neutron detection, polyethylene, scintillation counting, delay, 2704

helium 3, counter, heavy particle radiation, neutron radiation, multiplicity counter, 712

hematocrit, blood viscosity, capillary, capillary flow, erythrocyte aggregation, 117

- blood, blood resistance, body temperature, mathematic model, model, dog, 2843

hematology, computer, education, anemia, differential diagnosis, 1163

- digital computer, leukocyte, pattern recognition, 1623

hemiplegia, electroencephalography, evoked cortical response, evoked visual response, adults, 410

hemisphere, evoked cortical response, hearing, hemispheric dominance, noise, evoked acoustic nerve response, verbal input, non verbal input, 1109

hemispheric dominance, binaural hearing, brain, dichotic listening, hearing, speech, ear dominance, verbal stimuli, non verbal stimuli, 2877

- evoked cortical response, hearing, hemisphere, noise, evoked acoustic nerve response, verbal input, non verbal input, 1109

hemodialysis, artificial kidney, blood urea nitrogen, tube, pumpless, large diameter tubing, 2300

- acidosis, blood, blood ph, hemolysis, ph electrode, electrodeacidification, 3455
- artificial kidney, comparison of 2 types, 3480
- console description, 3087
- console system, 3088
- dextriferon, membrane, cuprophane, 1545
- technics, 25 children, 1894
- ultrafiltration, hemodialysis membrane, commercially available coils, 1548

hemodialysis membrane, hemodialysis, ultrafiltration, commercially available coils, 1548

hemodilution, signal detection, continuous signal, 898

hemodynamics, assisted circulation, left heart ventricle, model, 120

- aorta flow, computer model, counterpulsation, heart output, heart ventricle pressure, aorta balloon pump, 569
- analog computer, computer model, heart muscle oxygen consumption, computing, 2260
- aorta, artery, artery flow, atherogenesis, heart cycle, arterial location, dog, 2485
- atherosclerosis, computer, heart valve prosthesis, graph, 2822
- artificial kidney, blood flow, erythrocyte, plasma, thin film blood flow, 3721
- biomechanics, blood vessel, elasticity, model, 1674
- brain circulus arteriosus, computer model, dynamics, dog, 2068
- heart rate, model, variable simulator, 2472
- hemoglobin**, blood carbon dioxide tension, blood gas, blood oxygen tension, blood ph, measurement il 213/227 device, test report, 2989
 - carbon dioxide tension, blood oxygen dissociation curve, oxyhemoglobin, ph, continuous recording, 2633
 - mathematic model, oxygenation, ph, structure activity relation, 2,3 diphosphoglyceric acid, 2257
 - paramagnetic resonance, methemoglobin, protein, nitroxide radical, paramagnetic centre distance, 2211
- hemolysis**, acidosis, blood, blood ph, hemodialysis, ph electrode, electrodeacidification, 3455
 - aluminum, blood, copper, nylon, stainless steel, teflon, polystyrene, implantation, 3698
 - erythrocyte, muscle fiber, sodium, nuclear magnetic resonance spectrometry, frog, 2259
- hemorrhage**, model, process control, life sustained function, 896
- hemostasis**, computer, teaching, 760
- henle loop**, aldosterone, body water, cardiovascular system, computer model, kidney tubule, mathematic model, model, renin, sodium, vasopressin, kidney proximal convoluted tubule, 2756
 - computer model, kidney tubule absorption, urea, urine osmolarity, water, countercurrent multiplier system, 1307
 - mathematic model, kidney tubule absorption, 3613
- herbicide**, gas chromatography, radiation protection, insecticide agent, electron capture detector, 747
- hexane**, ionization chamber, back ground current, liquid ionization chamber, 3676
- high energy radiation**, radiation detection, nuclear radiation, powder counter, 710
- high pass filter**, active filter, realisation, 180
 - active filter, low pass filter, tunable filter, 2120
 - low pass filter, oscilloscope, 3 db point, 3289
- high voltage power supply**, power supply, digital control, 1364
- hill model**, elasticity, heart muscle, model, heart muscle contraction, heart muscle contractility, cat, quick release, 1277
 - heart papillary muscle, model, heart muscle contractility, cat, quick stretch, quick release, 1276
 - mathematic model, parameter estimation, 2461
- hippocampus**, brain, brain fornix, knife, septum pellucidum, transection method, spring loaded carrier, rat 3490
 - dentate gyrus, nerve cell membrane potential, nerve cell potential, nerve conduction, compartment model, entorhinal cortex, computation, 3266
 - nerve cell potential, visual stimulation, auditory stimulation, brain depth stimulation, brain programmed stimulation, cat, 3103
- hippocampus potential**, electroencephalography, evoked hippocampus response, evoked acoustic nerve response, cat, 2312
 - evoked hippocampus response, low pass filter, mathematic model, component analysis, 2915
- hip prosthesis**, drill, surgery, hohmann modification for prosthesis insertion, 1155
- his bundle potential**, heart muscle conduction system, heart atrioventricular conduction, exposure method, dog, 2745
- histogram**, display system, liquid crystal, multibar display, 2437
 - mechanoreceptor, frequency response, 407
- histology**, autopsy, biopsy, computer, data processing, nomenclature, pathology, gepact system, country wide network, 1198
- history**, anxiety, computer program, diagnosis, digital computer, 1178
 - computer program, diagnosis, 464
 - computer program, psychiatry, 673
 - computer program, psychiatry, 1780
 - computer, digital computer, basic systems, 3161
 - deafness, hearing aid, 818
 - medical engineering, industry, 491
 - semiconductor, 3192
 - semiconductor, 3193
- HL A system**, computer program, leukocyte antigen hl a1, tissue typing, pitfalls in the use of isoantibodies, 851
- hodgkin disease**, data processing, digital computer, drug, medical record, therapy, advanced disease, 33 cases, survival, prognosis, 2811
- hodgkin huxley equation**, calcium, model, potassium, sodium, excitable membrane, physicochemical model 1329
 - calcium, model, potassium, sodium, excitable membrane, physicochemical model, 1720
 - calcium, nerve cell, nerve conduction, nerve fiber membrane, phosphatidylserine, potassium, serine, sodium, excitable membrane, 2498
 - electrostimulation, nerve fiber potential, potassium, increased modulation and linearity, constant current stimulus, 153
 - heart muscle, heart muscle membrane, nerve fiber, voltage clamp, sucrose gap, early current analysis, 1279

- heart conduction system, heart muscle cell membrane, 1722
- heart rate, model, phase detection, vagus nerve, phase sensitive model, 2089
- model, sodium, voltage clamp, diffusion, 1264
- nerve fiber membrane permeability, hyperpolarization, nerve fiber membrane, potassium, 50
- nerve fiber membrane permeability, nerve fiber membrane, potassium, noise from open close kinetics 518
- nerve fiber membrane conductance, computer model, nerve conduction, nerve fiber membrane capacitance, nerve potential, properties, squid, 935
- nerve fiber membrane impedance, mathematic model, nerve fiber membrane, potassium, diffusion, 2496
- holography**, averaging, ear drum, hearing, vibration, cat, time averaged holography, 92
 - aerosol, laser, particle sizing, 700
 - aircraft, laser, sonic boom, supersonic aircraft, 3041
 - basic principle, 3350
 - computer memory, data processing, 245
 - computer memory, infrared radiation, memory, spectrometry, 1479
 - computer memory, magnetic bubble, review, 1790
 - cell motion, erythrocyte, model, 2009
 - computer program, digital computer, fourier transform, image processing, hologram synthesis, 2958
 - digital computer, fluoroscopy, radiography, image processing, 2419
 - dentistry, laser, tooth, introduction, 3011
 - display system, 3296
 - echography, ultrasonics, display system, 3 d representation, 427
 - ear drum, photography, vibration, 1684
 - echography, angiocardiography, 1930
 - filter, photography, phase hologram, dichromated gelatin, 244
 - fiberscope, modulation transfer function, image processing, 2156
 - fiberscope, 2571
 - glass, image processing, photochromic glass, 1390
 - interferometer, laser, polychromatic holography, 1779
 - image processing, image multiplication, 2965
 - image processing, motion picture, 3 dimensional hologram, 3356
 - microwave radiation, image processing, dielectric media, 3357
 - memory, model, 3586
 - ophthalmology, 2204
 - photographic film, photopolymer material, 1401
 - roentgenography, roentgen radiation, image processing, 3d picture, 1936
- homeostasis**, blood pressure, heart rate, 128
 - clamp, surgery, vasoconstriction, 3763
 - electrocoagulation, electrode, 592
- hormone**, corticotropin, supercategory, 900
 - computer program, drug, 1168
- hospital**, ambulance, public health service, telephone, survey, 648
 - computer program, data processing, neurology, psychiatry, algol, 449
 - computer, drug, laboratory, drug analysis, 1957
 - data processing, digital computer, electrocardiography, medical record, clinical laboratory, 3160
 - electrocardiography, electroencephalography, interference suppression, magnetic field, roentgen equipment, elevator, 2238
 - electric accident, large hospital, 42 month register, usa, 2710
 - electric accident, monitoring, 3145
 - emergency, power supply, 3533
 - monitoring, 844
 - model, patient care, dynamic model, 883
 - monitoring, 1153
 - process control, elevator, lift control, 750
- hospital administration**, computer program, information processing, digital computer, radiology, 3781
- hospitalization**, cardiovascular system, deconditioning, tilting, servo controlled tilt board, 363
- hospital management**, computer, 1164
 - computer, computer program, digital computer, patient, 1175
 - computer program, digital computer, 1176
 - digital computer, monitoring, nursing, 1955
- housewife**, electric hazard, principles, standards, 1224
- h reflex**, antagonist muscle, muscle, reciprocal innervation, spinal cord, voluntary movement, reciprocal inhibition, 1549
- humidifier**, hypothermia, monitoring, temperature, 2294
- humidity**, aluminium oxide, 686
 - apparatus, instrument material, 3378
 - measurement, linearization, 696
 - microwave radiation, temperature, temperature measurement, density measurement, moisture measurement, 3420
- hunting**, telemetry, 2566
- hybrid computer**, breathing rate, electrocardiography, electroencephalography, electromyography, electrooculography, sleep, automatic analysis, 3191
 - computer, electroencephalography, sharp transient detection, 861

- computer, heart arrhythmia, qualitative analysis, 2814
- computer, electroencephalography, electromyography, rem sleep, sleep, 3562
- frequency analysis, heart sound, function of time and frequency, 1978
- hydrocortisone**, cell culture, growth, hela cell, monitoring, 3279
- hydrodynamics**, fascia lata, heart valve, heart valve prosthesis,
 - in vitro, starr edwards prosthesis, comparative study, 2047
- muscle, muscle contraction, mechanical properties measurement, 2871
- hydrogen**, light, spectrometry, ultraviolet radiation, lyman discharge, 2675
- hydrogen cyanide**, air pollution, environmental health, infrared radiation, laser, spectrometry, water vapor 1510
- hydrogen ion**, aspartate, electroretinography, late receptor potential, bullfrog, 1323
 - cell membrane, proton, stomach mucosa, conductance, 2863
- hydrolysate**, aminoacid, cell extract, computer program, fortran, automatic calculation, 2806
- hydrophone**, noise, sea pollution, calibration, 1641
 - noise, calibration, 1642
- hydrostatic pressure**, leucine, phenylalanine, protein synthesis, ribosome, polyuridylic acid, 1241
 - microscopy, pressure chamber, 1-1600 atm, flagella, 3353
- 17 hydroxycorticosteroid**, brain, magnetic field, urine, histology, monkey, 1815
- hypacusis**, deafness, driver licence, hearing, traffic, evoked acoustic nerve response, 411
 - deafness, hearing aid, telephone, intelligibility, telephone characteristics, 1508
 - deafness, driver licence, hearing, traffic, vestibular system, evoked acoustic nerve response, 3739
 - hearing aid, pitch perception, perception deafness, 3504
- hyperbarism**, hypothermia, liver perfusion, ph, organ perfusion, automatic ph adjustment, 1861
- hypercapnia**, arterial carbon dioxide tension, arterial oxygen tension, artery, breathing, chemoreceptor, chemoreceptor reflex, hypoxia, lung ventilation, mathematic model, 778
 - chamber, dog, 1517
- hyperparathyroidism**, biopsy, bone, diagnosis, digital computer, osteomalacia, bone disease, osteoporosis, quantitative histology, 3164
- hyperpolarization**, cell, nerve cell potential, electric mediated inhibition, goldfish, 2078
 - deoxycorticosterone, estradiol, meractinomycin, muscle denervation, muscle fiber membrane, muscle fiber membrane potential, protein synthesis, ribonuclease, rat, 3046
 - nerve fiber membrane permeability, hodgkin huxley equation, nerve fiber membrane, potassium, 50
- hypertension**, atherosclerosis, blood flow, blood pressure, social behavior, telemetry, implantation, mouse, 3335
 - blood pressure, systolic blood pressure, tail, validation of tail cuff method, awake rat, 2289
- hypophysis**, cannula, hypothalamus, infusion, micropipette, neuroendocrinology, neurophysiology, rat, 386
 - dentate nucleus, stereotaxic device, stereotaxic surgery, man, 442
- hypothalamus**, cannula, hypophysis, infusion, micropipette, neuroendocrinology, neurophysiology, rat, 386
 - cold stress, computer model, preoptic area, skin temperature, thermoreceptor, environment temperature 2 temperature input models, 2875
- hypothermia**, hyperbarism, liver perfusion, ph, organ perfusion, automatic ph adjustment, 1861
 - humidifier, monitoring, temperature, 2294
- hypoxia**, arterial carbon dioxide tension, arterial oxygen tension, artery, breathing, chemoreceptor, chemoreceptor reflex, hypercapnia, lung ventilation, mathematic model, 778
- hysterectomy**, thalassemia, vagina, aids, method, aids, methods, 3147
- hysteresis**, lung, lung model, mathematic model, lung alveolus surface tension, lung hysteresis, viscoelasticity, 67

- iliac artery**, aorta, aorta flow, artery, artery flow, blood pressure, mathematic model, nonlinear system, 1706
 - artery, artery model, artery wall, carotid artery, femoral artery, model, 5 component model, 2903
- illumination**, color vision, vision test, illumination box, 1915
 - colorimetry, photometry, spectrometry, metamerism, 3609
 - electrostimulation, retina, pulsed illumination, sensitivity changes, 3122
 - interference suppression, chamber, experiment, 1426
 - light, mercury, mirror, design problem, 2665
 - light, vision, 100-800 lux., 2775
- image**, lens, vibration, wide aperture lens, 1696
 - photoresistor, ruticon, erasable image, 1385
- image converter**, image intensifier, modulation transfer function, 650
 - infrared radiation, laser, parametric conversion, 668
 - infrared radiation, 1388
 - image intensifier, infrared radiation, thermography, up conversion, 2371
 - modulation transfer function, 1294
- image intensifier**, angiography, digital computer, heart performance, roentgenography, television, biplane roentgenography, 1207
 - blood flow, densitometry, dye dilution curve, roentgenography, television, flexible window size, diaphragm, 1588
 - camera tube, television camera, 1397
 - camera tube, sensitivity, charge coupled imager, 2579
 - diagnosis, roentgen radiation, 3520

- fluorescence, roentgen radiation, review, 1057
- fluoroscopy, luminescence, neutron radiation, radiation, radiography, roentgen radiation, modulation transfer function, luminescing screen, 3760
- image converter, modulation transfer function, 650
- image converter, infrared radiation, thermography, up conversion, 2371
- microchannel plate inverter image intensifier, data, 655
- night vision, signal noise ratio, 718
- photography, high speed, review, 669
- radiography, roentgen radiation, modulation transfer function, dose reduction, 2590
- roentgen radiation, television, modulation transfer function, 2791
- roentgen radiation, television, vidicon, camera tube, modulation transfer function, plumbicon, 2796
- radiodiagnosis, roentgen radiation, 3522
- image processing, 2962**
 - 3 d picture construction, 1448
 - 3 d image, bandwidth, review, 1687
 - computer, bibliography, 657
 - computer model, motion degradation, 658
 - computer model, coma restoration, 659
 - computer program, fourier transform, 660
 - cathode ray oscilloscope, electron microscopy, television camera, image parameters, 988
 - cineradiography, data processing, digital computer, laryngography, lip, lip movement, speech, 1140
 - computer, muscle, muscle fiber, 1420
 - computer memory, echography, tomography, ultrasonics, display system, color presentation, 2161
 - covariance, data reduction, digital computer, karhunen loeve method, 2610
 - computer program, digital computer, holography, fourier transform, hologram synthesis, 2958
 - camera, fiberoscopy, pinhole camera, 3021
 - computer program, digital computer, radiography, scintigraphy, cdc 6600, cdc 7600, 3273
 - digital computer, fluoroscopy, model, roentgen apparatus, roentgen screen, modulation transfer function 833
 - dosimetry, phantom, radiology, roentgen radiation, 1146
 - data processing, sampling, data compression, 2 dimensional image, 1587
 - digital computer, digital filtering, vision, binary image, 1688
 - digital computer, gait, television, walking, cdc 1700, 1981
 - digital computer, fluoroscopy, holography, radiography, 2419
 - data processing, optic filter, grating, 2454
 - digital computer, microscopy, 3 dimensional picture, 2589
 - digital computer, radiography, roentgen radiation, 2795
 - data processing, flowmeter, scintigraphy, display system, ratemeter control, 3139
 - echography, ultrasonics, 1142
 - electron microscopy, thin polymer film, 2583
 - echography, ultrasonics, aberration, scanning imaging system, 2709
 - electron microscopy, modulation transfer function, defocusing, 2963
 - electron microscopy, microscopy, image optimization, 3343
 - fiberscope, model, modulation transfer function, interferometrically fiber optics, 664
 - fourier transform, spatial frequency filtering, computational methods, 1237
 - fiberscope, holography, modulation transfer function, 2156
 - filter, contrast, random diffuser, 2162
 - gamma radiation, roentgen camera, roentgen radiation, scintillation camera, multiple pinhole camera, 1058
 - holography, glass, photochronic glass, 1390
 - holography, roentgenography, roentgen radiation, 3d picture, 1936
 - holography, image multiplication, 2965
 - holography, motion picture, 3 dimensional hologram, 3356
 - holography, microwave radiation, dielectric media, 3357
 - information theory, movement detection, moving image, 562
 - image restoration, digit method, 661
 - information, 3220
 - light diffraction, movement perception, retina image, image motion, 2065
 - lens, photography, fresnel lens, 2659
 - light, source reconstruction, 3679
 - model, retina image, vision, modulation transfer function, image distorsion, 109
 - modulation transfer function, edge response, 667
 - microscopy, variable phase, 987
 - model, 2 dim. bayesian estimate, 1238
 - motion picture, reusable, erasable, properties, 2158
 - optical correlation, 1831
 - photography, multiplex image storage, 229
 - photography, pattern recognition, scene analysis, methods, review, 989
 - performance criteria, 1730
 - photography, integrated image, 2961
 - radiography, roentgen apparatus, roentgen radiation, modulation transfer function, theory, 949
 - scanning microscopy, focusing, 1822
 - signal detection, signal noise ratio, nonadditive noise, 2021

- spectrometry, 3399
- visual system, modulation transfer function, theory, 3410
- imidazole**, cell membrane, muscle fiber membrane, phosphoric acid, potassium, sodium, ionogenic groups 1853
- immigration**, population model, age dependent branching with immigration, mathematical method, 513
- immobilization**, bone, femur, growth, tibia, vibration, age, bone piezoelectric potential, 132
 - restraining device, technetium 99m, scintiscanning, clinical use, 3758
- immunoassay**, computer program, protein binding, generalized computer program, 854
- immunodiffusion**, algorism, computer model, diffusion, 1258
- immunoglobulin g**, electrophoresis, sucrose, horizontal set up, electrofocusing, 1801
- immunology**, computer program, genetics, tissue typing, 852
- impact**, cartilage, fracture, joint, cartilage degeneration, rabbit, impact loading, 3591
 - erector spinae muscle, mathematic model, spine, seatbelt, muscle influence, man, 3512
 - head, model, head model, 2473
 - mathematic model, muscle, skeleton, system analysis, feedback system, line graph flow graph procedure, 2033
- impedance**, blood, heart output, rheology, output determination, dog, 2272
 - finger, forearm, skin, tissue, 1270
 - negative impedance, 3395
 - thorax impedance, measurement device, 2988
- impedance plethysmography**, chronic obstructive lung disease, computer, heart output, plethysmography, spirometry, lung function, 3077
 - model, plethysmography, flow, 2284
 - muscle impedance, plethysmography, versatile and economic system, 2631
- implantation**, atherosclerosis, blood flow, blood pressure, hypertension, social behavior, telemetry, mouse, 3335
 - aluminum, blood, copper, hemolysis, nylon, stainless steel, teflon, polystyrene, 3698
 - blood pressure, catheter, skin, connector plug, 419
 - blood flowmeter, electromagnetic flowmeter, evaluation and calibration, 1087
 - blood pressure, circadian rhythm, electrocardiography, telemetry, right heart ventricle pressure, left heart ventricle pressure, implantable, monkey, 1098
 - blood pressure, telemetry, unrestrained animal, 1381
 - bone, ceramic, glass, microscopy, fixation to bone, rat, 1637
 - body temperature, radiotracer, telemetry, radiotransmitter, serum albumin i 125, rabbit, 1755
 - body temperature, electrocardiography, electroencephalography, neurotransmitter, telemetry, rat, 2562
 - body temperature, telemetry, temperature, 3 channel system, 2952
 - body temperature, telemetry, thermometer, 2953
 - brain ventricle, cannula, brain depth injection, chronic study, cat, 3101
 - bone, tibia, transducer, shear stress, monkey, 3237
 - blood flow, electroencephalography, electromagnetic flowmeter, flowmeter, stress, telemetry, neurotransmitter, electrocardiography, animal, 3321
 - blood flow, blood pressure, emotion, exercise, kidney blood flow, telemetry, implantable transmitter, 3657
 - ceramic, soft tissue, toxicity, corrosion, glass, subcutis, biocompatibility, histology, electron microscopy, rat, 1639
 - electrocardiography, electroencephalography, telemetry, transmitter, 1756
 - electroencephalography, nerve cell potential, spike, telemetry, transmitter, nervous system, frequency modulation, implantable transmitter, 1757
 - gamma radiation, iodine 125, radiotracer, telemetry, albumin i 125, rabbit, 1497
 - heart ventricle, heart ventricle pressure, manometer, micromanometer, dog, 1099
 - nerve, stimulator, 204
 - skin, transducer, transderma, 167
 - stainless steel, titanium, vitallium, zinc, metal, corrosion, alloy, 1213
 - telemetry, neurotransmitter, electrocardiography, rat, implantable transmitter, 3325
 - telemetry, ultrasonic transducer, uterine tube, rabbit, 3720
- impotence**, penis, penis erection, prosthesis, pressurized elastic tube implantation, 1893
- incubation**, baby incubator, developing countries, 3276
- indicator**, current meter, diode, voltmeter, display system, linear indicator, 3768
 - strip chart recorder, limiter, indicator protection, current limiter, 3301
- indicator dilution curve**, digital computer, mathematic model, pitfalls, impulse response, transfer function 3772
 - extracellular fluid, heart output, lung edema, thermodilution curve, measurement method, dog, 3079
- indocyanin green**, dye dilution curve, calibration, 3464
- induction**, active filter, rl simulation, 1340
 - wide range, 273
 - wide range, 703
- industrial health service**, air pollution, laboratory, 781
 - blood pressure, bradycardia, heart rate, skin temperature, vibration, 694 workers, switzerland, 1868
 - coal mining, dust, monitoring, mass monitor, 1890
 - deafness, noise, occupational deafness, vestibular system, vibration, 815
 - deafness, hearing, occupational deafness, 1913
 - environmental health, radiation hazard, electromagnetic radiation, 301
 - hearing, noise, task performance, noisy environment, 816

- hearing, industrial noise, sound level measurement, specification, osha regulation, 3690
- microwave radiation, radiation protection, microwave oven, 727
- model, noise, noise control, scale model test, 3688
- industrial medicine**, eye, laser, optic filter, radiation hazard, radiation protection, filter optimization, 3009
- industrial noise**, hearing, industrial health service, sound level measurement, specification, osha regulation, 3690
- industry**, history, medical engineering, 491
- infection**, epidemiology, model, population, statistics, disease, 3578
 - lymphography, children, injection apparatus, 423
- inferior cava vein**, airway pressure, artificial ventilation, cava vein, cava vein blood flow, lung ventilation vein blood flow, variously adjusted engstrom respirator, subdiaphragmatic flow pattern, dog, 2738
 - airway pressure, artificial ventilation, cava vein, cava vein blood flow, lung ventilation, vein blood flow pressure control, subdiaphragmatic flow pattern, dog, bennett respirator, 2739
- inferior colliculus**, electrostimulation, head movement, brain depth stimulation, effectiveness increase, cat 3096
- inflammation**, polyurethan, subcutis, local reaction, mouse, rat, rabbit, various reactions, 3196
- influenza**, electric prosthesis, hand prosthesis, powered prosthesis, feedback system, 2355
- information**, analyzer, sound, oriental hornet, 3743
 - brain, data processing, mathematic model, stimulation, 1111
- information**, computer program, data processing, multivariate analysis, statistics, non linear regression, 2455
 - contingency table, multivariate analysis, statistics, independance test, 2857
 - carcinogenesis, cybernetics, fertilization, genetics, model, regeneration, 3226
- information**, directional hearing, hearing, sound detection, uncertainty relation, 3244
 - entropy, 2024
- information**, frequency discrimination, hearing, signal, 2880
- information**, image processing, 3220
 - model, vision, pattern recognition, modulation transfer function, structured image, unstructured image, 2894
- information**, model, state equation, nonstationary system, 3574
 - prediction, minimum penalty estimate, 3572
 - system analysis, 2445
- information**, sampling, shannon theorem, explication, 3212
 - system analysis, pattern recognition, behavior, parameter extraction, 3583
- information processing**, clinical chemistry, data processing, digital computer, clinical laboratory, 3157
- information processing**, computer program, digital computer, exponential model, information processing, sum of exponentials, 3573
- information processing**, computer program, information processing, digital computer, exponential model, sum of exponentials, 3573
- information processing**, clinical chemistry, computer, laboratory, eclipse, 3773
 - computer program, digital computer, radiology, hospital administration, 3781
- information processing**, data processing, data base, 2976
 - digital computer, monitoring, nursing, patient care, digital computer, data processing, 3175
- information processing**, digital computer, 3665
 - spectrometry, statistics, moessbauer spectrometer, thick absorber, 3675
- information theory**, autocorrelation, data processing, statistics, square periodic process, 37
 - algorism, analog algorithm, 897
 - computer program, model, fortran, gentzen, church, ohama, calculus, 27
 - data processing, receptor, nervous system, nerve fiber code, 944
 - ecology, statistics, kernel identification, 1848
 - memory, model, task performance, vision, display system, man machine interaction, 42
 - mathematics, model, nerve cell network, cofunction, 516
 - model, speech, recognition, 524
 - movement detection, image processing, moving image, 562
 - periodic correlation, 530
 - probing signal design, 912
 - signal detection, bayes estimation, 45
 - signal detection, double stochastic poisson process, 46
 - statistics, task performance, thermodynamics, no visual input, 906
 - signal detection, light detection, low level, 1288
 - signal detection, signal noise ratio, electric filter, multichannel analyzer, 1658
- infrared absorption**, light absorption, model, roentgen radiation, spectrometry, magnetism, analysis, 2662
- infrared detection**, infrared radiation, ktn properties, 601
 - infrared radiation, thermography, detector array, 724
 - infrared radiation, bandwidth measurement, 1480
- infrared filter**, ultraviolet filter, liquid filter, 2205
- infrared photography**, laparoscopy, ovulation, monkey, infrared photolaparography, 1476
- infrared radiation**, aerosol, water vapor, 1481
 - air pollution, environmental health, laser, spectrometry, hydrogen cyanide, water vapor, 1510
 - aerosol, refraction index, 1512
 - atmosphere, spectrometry, thrombocythemia, 3414
 - bolometer, thermistor, thermography, chalcogenide glass, 3682
 - computer memory, holography, memory, spectrometry, 1479

- circulation, photoelectric plethysmography, photoresistor, plethysmography, semiconductor, skin, skin blood flow, signal noise ratio, 3043
- digital computer, spectrometry, spectrophotometry, 2209
- discharge, eye, laser, light, radiation hazard, retina, ultraviolet radiation, halogen lamp, lesion, lamp, evaluation, 3746
- eye trauma, light, ultraviolet radiation, 296
- eye, laser, radiation hazard, eye protection, 1573
- fruit, light reflection, tomato, 2210
- gas absorption, temperature, vacuum, 3018
- germanium, silicone, 3404
- infrared detection, ktn properties, 601
- image converter, laser, parametric conversion, 668
- infrared detection, thermography, detector array, 724
- image converter, 1388
- infrared detection, bandwidth measurement, 1480
- image converter, image intensifier, thermography, up conversion, 2371
- infrared spectrometry, nerve conduction, nerve excitability, spectrometry, signal noise ratio, perkin elmer 521 modification, 3104
- light, calibration, 18
- light, ultraviolet radiation, radiometer, black body, self calibrating, 596
- light absorption, refraction index, water, temperature dependence, 723
- light transmission, refraction index, dispersion analysis, 1477
- light, temperature, large area source, temperature dependence, 2677
- light absorption, light polarizer, model, crystal, dichroism, 3014
- light absorption, photoelectric cell, 3415
- microscopy, television, high resolution, 1047
- modulated light, thermography, radiometer, mechanical modulator, 1478
- photo cell, near infrared, 1832
- refraction, refraction index, sodium chloride, water, 286
- radiometer, calibration, 1482
- spectrometry, spectrophotometry, calibration, 1048
- signal processing, thermography, derivative thermography, 1141
- thermography, signal noise ratio, integrator, 663
- thermography, signal noise ratio, electric filter, modulation noise, 986
- thermometer, 1018
- thermography, photographic film, cu2hgi4, 2152
- thermography, display system, 2588
- thermography, external reference, calibration, 3528
- vidicon, television camera, 599
- infrared spectrometry**, electric field, nerve conduction, nerve fiber, 397
 - infrared radiation, nerve conduction, nerve excitability, spectrometry, signal noise ratio, perkin elmer 521 modification, 3104
- infusion**, artery infusion, chemotherapy, continuous arterial infusion devices, ambulant patients, 3625
 - cannula, hypophysis, hypothalamus, micropipette, neuroendocrinology, neurophysiology, rat, 386
 - pump, roller pump, exchange blood transfusion, 344
- inhalation**, cigarette smoking, smoking, device, rat, 1542
- inhibition**, alpha rhythm, central nervous system, electroencephalography, epilepsy, excitation, mathematic model, nerve cell network, 940
- inhibitory postsynaptic potential**, excitatory postsynaptic potential, learning, mathematic model, memory, model, nerve cell, nerve cell model, synapse, 3264
- injection**, chemical kinetics, 2180
 - heart output, thermodilution curve, indicator loss, correction factor, 2279
 - laser, chemical laser, liquid injector, 3405
- ink recorder**, data processing, electroencephalography, 586
- inotropic response**, heart left ventricle, mathematic model, stellate ganglion , heart left ventricle enddiastolic volume, 3596
- insecticide agent**, gas chromatography, herbicide, radiation protection, electron capture detector, 747
- inspiration**, airway, airway pressure, expiration, model, airway flow, sinusoidal flow, 540
 - absorption, nitrous oxide, oxygen, semiclosed circle circuits, 1939
- instrumental conditioning**, brain steady potential, skin resistance, readiness potential, push button construction, 797
 - behavior, digital computer, real time documentation, 1212
 - conditioning, learning, study apparatus, monkey, 798
 - heart rate, orienting reflex, ekg recording, direct reading scale, beat by beat recording, 1876
 - reinforcement, synthetic variable interval schedule, device, 3098
- instrumentation recorder**, converter, improvement, 201
 - cosmic radiation, oscilloscope, television camera, 2702
 - heart tape recorder, time base error, 2538
 - tape recording, constant speed drive, two motor reel drive, 191
 - tape recording, time marker, chronometer, 192
 - tape recording, three parameter recorder, 970
 - tape recording, tape interface, nuclear data 130, kennedy 1400, 1743
 - voltage frequency converter, high accuracy, 641

- insulator**, thyristor, electric hazard, non destructive method, 954
- insulin**, computer model, digital computer, glucose, glucose tolerance test, mathematic model, 1996
- integrated circuit**, 1380
 - amplifier, audioamplifier, power amplifier, 2122
 - blood pressure, heart catheterization, pressure transducer, 2931
 - cable, 3207
 - development, 1988
 - digital voltmeter, fairchild 3814, 2938
 - digital filtering, 2972
 - display system, review, 3298
 - digital computer, electronic switch, analog switch, 3369
 - function generator, 2558
 - generator, ttl compatible, 1374
 - heart rate, indicator, 2737
 - lock in amplifier, operational amplifier, digital system, 1741
 - logic circuit, development, 1987
 - multivibrator, pulse generator, variable duty cycle, 3641
 - power amplifier, ttl/lsl driver, 1802
 - pressure transducer, strain gauge transducer, review, 1806
 - pressure transducer, piezoresistive transducer, 2629
 - power supply, zener diode, temperature, compensation, 3310
 - semiconductor, review, history, 2439
 - square wave generator, 3640
 - timer, 3669
- integrator**, analog computer, high precision, 215
 - analog digital converter, voltmeter, digital, 626
 - brain, model, nerve cell model, nerve cell network, 793
 - computer, gas chromatography, 459
 - electroencephalography, electromyography, 1110
 - gamma radiation, gating circuit, radiation detection, scintigraphy, pulse shape discrimination, semiconductor detector, 315
 - infrared radiation, thermography, signal noise ratio, 663
 - mass spectrometry, oxygen 18, radioisotope, oxygen 16, isotope ratio, 2620
 - nuclear magnetic resonance, 1055
 - telemetry, 2956
- intelligence**, brain, memory, model, nerve cell network, artificial intelligence, association, 574
- intelligibility**, binaural hearing, brain, right ear advantage, dichotic hearing, monaural hearing, 3245
 - deafness, hearing aid, hypacusis, telephone, telephone characteristics, 1508
 - hearing, speech, segment duration, just noticeable difference, rhythm, 85
 - hearing, peak clipping, threshold crossing, 559
 - hearing, music, speech, pattern recognition, complex sound, 2887
 - noise, signal noise ratio, constant s/n ratio, 1383
- intensive care**, acid base balance, computer, 3159
 - electricity, electric hazard, 1729
 - monitoring, telemetry, reliability, 1597
- intention tremor**, computer, tremor, recording and analysing, 1130
- interference reduction**, electric accident, electrocardiography, monitoring, safety, test program, safety, interference, 2378
- interference suppression**, artifact, electrocardiography, electroencephalography, telemetry, electric hazard, 1763
 - electrocardiography, electroencephalography, hospital, magnetic field, roentgen equipment, elevator, 2238
 - illumination, chamber, experiment, 1426
 - multivibrator, signal noise ratio, electric interference, noise immunity, review, 2544
 - power line interference, 2540
- interferometer**, cell, dry mass determination of living cells, 951
 - gas flow measurement, chemical kinetics, ultrasonic speed, 1026
 - holography, laser, polychromatic holography, 1779
 - laser, ultracentrifugation, trigger, pulsed laser, 714
 - monochromator, fabry perot, low absorption, 1829
- interferometry**, carbon dioxide laser, laser, manometer, 2628
 - heat flux, 2671
- intermittent positive pressure breathing**, anesthesia, breathing, bronchoscopy, 1938
 - airway resistance, artificial ventilation, breathing mechanics, computer model, lung alveolus pressure, flow pattern study, 3717
- interpositus nucleus**, cerebellum, locomotion, nerve cell, nerve cell potential, fastigial nucleus, cat, 2307
- intestine**, colon, endoscopy, peroral endoscopy, 1520
 - endoscopy, whole intestine, 1519
 - electromyography, pharmacology, smooth muscle, telemetry, ureter, uterus, 1752
- intestine absorption**, analog computer, cloaca, computer model, ureter, urine, bird, 2030
 - intestine perfusion, automatic absorption measurement, 338
- intestine motility**, duodenum, recording method, rat, 2250
- intestine perfusion**, intestine absorption, automatic absorption measurement, 338

intestine potential, voltmeter, miniature digital voltmeter, 3393
intoxication, diagnosis, discriminatory analysis, barbituric acid derivative, 3163
intracardiac electrocardiography, electrocardiography, heart muscle conduction system, heart muscle potential, vagus nerve, dog, 2266
intracranial pressure, arterial carbon dioxide tension, brain blood flow, brain perfusion, brain vascular resistance, critical closing pressure, monkey, 1704
 -**brain ventricle pressure**, cerebrospinal fluid, pressure transducer, disposable system, 3107
 -**monitoring**, strain gauge transducer, monitoring, 2314
 -**monitoring**, pressure transducer, semiconductor, strain gauge transducer, technical note, 2761
 -**monitoring**, pressure transducer, 3735
 -**pressure transducer**, coplanar pressure transducer, dog, 1555
 -**pressure measurement**, telemetry, 1754
 -**pressure transducer**, evaluation of recording system, 30 patients, 3109
 -**respiration**, strain gauge transducer, long term measurement, 3489
intraocular pressure, adrenergic system, aqueous humor, mathematic model, 1123
 -**applanation tonometry**, 2 hand types, comparison, 2341
 -**aqueous humor**, capillary pressure, mathematic model, 3444
 -**applanation tonometry**, apparatus, 3498
 -**body weight**, circadian rhythm, tonometry, calibration, rabbit, 3119
 -**cataract**, cataract extraction, needle, 1946
 -**experimental animal**, manometer, rabbit, 1120
intrauterine pressure, digital computer, electroencephalography, fetus, heart rate, 3705
 -**labor**, pregnancy, 782
intravascular blood clotting, thrombocyte aggregation, detection, quantitations, 1539
intravenous feeding, catheter, cava vein, parenteral feeding, method and technique, minipig, 2251
intravenous infusion, clamp, even flow, 440
iodine 125, bone density, computer, computer program, finger, profile scanner, 3181
 -**gamma radiation**, radiotracer, telemetry, implantation, albumin i 125, rabbit, 1497
iodine 131, computer, technetium 99m, thyroid function, thyroid gland, method validation, 239 patients, 2808
 -**computer program**, phosphorus 32, statistics, nuclear radiation, chi square test, 2923
 -**endoplasmic reticulum**, golgi apparatus, microwave radiation, protein bound iodine, thyroid gland, ultrastructure, animal, 3683
iodohippurate sodium i 131, 4 aminohippuric acid, radioisotope, clearance, edetic acid cr 51, 3516
ion, cell membrane, cell membrane permeability, mathematic model, onsager model, 2031
 -**cell membrane steady potential**, mathematic model, model, 2088
 -**cell membrane**, cell membrane potential, cell membrane steady potential, mathematic model, fixed charge, potential profile, concentration profile, 2092
 -**lipid membrane**, mathematic model, membrane permeability, 1646
ionization, gamma radiation, geiger mueller counter, low volatility molecule, ionization potential, 2924
ionization chamber, construction, response, 1061
 -**hexane**, back ground current, liquid ionization chamber, 3676
 -**nuclear radiation**, output variation, 1814
 -**nuclear radiation**, pulsed radiation, nbs p2 standard, 1816
ionization meter, air pollution, environmental health, radiation, radiation monitoring, tritium, 3029
ionized air, liver, liver slice, metabolism, oxygen consumption, rat, 2247
iontophoresis, brain depth injection, rat, constant current device, 1107
 -**microiontophoresis**, repeatable method, 1847
iridium, electrode, electroencephalography, gold, platinum, metal, palladium, rhodium, comparison, 392
iris, blood clotting, ciliary body, eye, laser, rabbit, histopathology, 1599
iron, chemoluminescence, erythrocyte membrane, ultraviolet radiation, lipid peroxide, 2847
iron 59, chromium 51, erythrocyte cr 51, erythrocyte fe 59, forearm, radiation counting, 1060
irrigation, abscess drainage, drainage, simple construction, 591
 -**dentistry**, surgery, tissue, tissue pressure, army medical irrigator, medical irrigator model 200, 3767
ischemic heart disease, coronary angiography, digital computer, exercise, vectorcardiography, vcg quantitative processing, 2405
 -**computer**, computer program, coronary care unit, heart infarction, display, man machine interaction, midas program, 3186
 -**cardiogenic shock**, angiocardiology, extracorporeal circulation, heart infarction, open heart surgery, oxygenation, aorta balloon pump, aortocoronary bypass graft, 4 patients, 3702
isolated heart, analog computer, electrocardiography, heart muscle, function test, automated analysis, 2425
isoprenaline, adrenalin, chlorpromazine, coronary artery flow, heart output, left heart ventricle, propranolol, aorta balloon pump, dog, 1530
isotonic contraction, muscle contraction, muscle strength, dynamometry, muscle isometric strength, 1579

jaundice, computer model, diagnosis, 2812
joint, bone, endoprosthesis, prosthesis, joint prosthesis, 2780
 -**body posture**, model, movement, 3589
 -**cartilage**, mathematic model, shear stress, 82
 -**cerebellum**, cuneate nucleus, movement, nerve cell potential, cuneocerebellar tract, 3129
 -**cartilage**, fracture, impact, cartilage degeneration, rabbit, impact loading, 3591

- echography, mandible, 3526
- fatigue, finger, prosthesis, silastic, fatigue testing, 415
- lubrication, short review, biomechanics, 914
- model, speech, 1104
- mathematic model, speech, 3078
- shoulder, goniometry, measurement equipment, 2353
- temporomandibular joint, recording system, 3697
- joint cavity**, joint lubrication, knee, flexion, load bearing area, cadaver joint, 2777
- joint lubrication**, biomechanics, theoretics, 2867
 - cartilage, 1582
 - joint cavity, knee, flexion, load bearing area, cadaver joint, 2777
- joint prosthesis**, bone, endoprosthesis, joint, prosthesis, 2780
- joint prosthesis**, endoprosthesis, survey, 2781
- joint prosthesis**, plastic, metal, total hip prosthesis,
 - friction, frictional wear, several thermoplastic materials,
 - pin and disk machine, dry and wet environment, 2352
- judgment**, decision, model, suicide, suicide prevention, 2861
- jumping**, cineradiography, locomotion, motor activity, primates, 2790
- karyotype**, chromosome, computer, mitosis, karyotyping,
 - measurement normalization, automatic karyotyping, 1625
- chromosome, computer, cytogenetics, genetics, karyotyping, usefulness, 1969
- chromosome, computer, mass screening, karyotyping, 1970
- chromosome, computer, computer program, karyotyping, bayesian and logical approach, 1971
- chromosome, computer, karyotyping, 1972
- karyotype 46,XY plotter**, computer, data fitting, photolithic mask, 991
 - computer, statistics, 1160
- karyotyping**, chromosome, computer, karyotype, mitosis,
 - measurement normalization, automatic karyotyping, 1625
- chromosome, computer, cytogenetics, genetics, karyotype, usefulness, 1969
- chromosome, computer, karyotype, mass screening, 1970
- chromosome, computer, computer program, karyotype, bayesian and logical approach, 1971
- chromosome, computer, karyotype, 1972
- kidney**, kidney artery, ureter, exteriorization method modification, dog, 2303
 - liver, magnetic field, mitochondria, oxidative phosphorylation, ultrasonics, rat, 2637
- mathematic model, model, ureter, ureter flow, analytical solutions, 571
- kidney arteriography**, kidney cancer, tomography, device, 45 cases, 3137
- kidney artery**, kidney, ureter, exteriorization method modification, dog, 2303
- kidney blood flow**, argon, brain blood flow, carbon dioxide, carbon dioxide tension, liver blood flow,
 - mass spectrometry, nitrogen, oxygen, oxygen tension, skin blood flow, 1531
- blood flow, blood pressure, emotion, exercise, telemetry, implantation, implantable transmitter, 3657
- kidney flow isolation method, dog, 773
- kidney cancer**, kidney arteriography, tomography, device, 45 cases, 3137
- kidney cortex**, capillary, kidney plasma flow, mathematic model, kidney tubule absorption,
 - kidney proximal convoluted tubule, peritubular control, rat, dog, 3090
- kidney medulla**, antidiuresis, computer model, sodium, kidney tubule absorption,
 - computer simulation, osmotic gradient without active transport, 1308
 - countercurrent multiplier system, simple system, 382
- kidney perfusion**, glucose, glomerulus filtration rate, mathematic model, sodium, kidney tubule absorption
 - rat, perfusion, 116
 - kidney preservation, nylon, oleate, plastic, poly(vinyl chloride), silastic, tube, organ perfusion, tube choice, rabbit kidney, 3091
- kidney plasma flow**, capillary, kidney cortex, mathematic model, kidney tubule absorption,
 - kidney proximal convoluted tubule, peritubular control, rat, dog, 3090
- kidney preservation**, kidney perfusion, nylon, oleate, plastic, poly(vinyl chloride), silastic, tube,
 - organ perfusion, tube choice, rabbit kidney, 3091
- kidney proximal convoluted tubule**, aldosterone, body water, cardiovascular system, computer model,
 - henle loop, kidney tubule, mathematic model, model, renin, sodium, vasopressin, 2756
 - bicarbonate, chloride, sodium, kidney tubule absorption, static characteristics, 2751
 - cannula, kidney tubule, insertion method, necterus, 1560
 - capillary, kidney cortex, kidney plasma flow, mathematic model, kidney tubule absorption, peritubular control, rat, dog, 3090
- kidney tubule**, aldosterone, body water, cardiovascular system, computer model, henle loop,
 - mathematic model, model, renin, sodium, vasopressin, kidney proximal convoluted tubule, 2756
 - cannula, kidney proximal convoluted tubule, insertion method, necterus, 1560
 - microelectrode, puncture, 1547
 - microelectrode, ph electrode, double barreled glass electrode, production, testing, 1895
- kidney tubule absorption**, antidiuresis, computer model, kidney medulla, sodium,
 - computer simulation, osmotic gradient without active transport, 1308
 - bicarbonate, chloride, sodium, kidney proximal convoluted tubule, static characteristics, 2751
 - computer model, henle loop, urea, urine osmolality, water, countercurrent multiplier system, 1307

- capillary, kidney cortex, kidney plasma flow, mathematic model, kidney proximal convoluted tubule, peritubular control, rat, dog, 3090
- glucose, glomerulus filtration rate, kidney perfusion, mathematic model, sodium, rat, perfusion, 116
- henle loop, mathematic model, 3613
- kinesiology**, reaction time, reflex, reflex time, objective recording, 2765
- knee**, biomechanics, mathematic model, biomechanical analysis, 3239
 - golgi tendon receptor, quadriceps jerk reflex, tibia, control system, grasshopper, 2311
 - joint cavity, joint lubrication, flexion, load bearing area, cadaver joint, 2777
- knife**, brain, brain fornix, hippocampus, septum pellucidum, transection method, spring loaded carrier, rat 3490
 - microtome, ultrasonics, diamond knife, ultramicrotome, 2239
 - microtome, cryostate, jung k knives, 2930
- krypton**, argon, helium, light, ultraviolet radiation, xenon, 2676
- kymography**, action potential, analog digital converter, computer, 1983
 - recording device, 3275

- labor**, fetoplacental unit, fetus, mathematic model, monitoring, review, 2017
 - fetus, heart rate, classification analysis, 3082
 - intrauterine pressure, pregnancy, 782
- laboratory**, air pollution, industrial health service, 781
 - computer, data processing, 1169
 - computer, data processing, system analysis, 1170
 - computer, data processing, system analysis, 1171
 - computer, creatine phosphokinase, data processing, lactate dehydrogenase, serum, serum aspartate aminotransferase, system analysis, enzyme, 1172
 - computer, data processing, system analysis, 1173
 - computer, drug, hospital, drug analysis, 1957
 - clinical chemistry, computer, information processing, eclipse, 3773
- labyrinth**, body posture, electrostimulation, gravity, vestibular system, 60
- lactate dehydrogenase**, computer, creatine phosphokinase, data processing, laboratory, serum, serum aspartate aminotransferase, system analysis, enzyme, 1172
- lactate silver**, burn, protein, pseudomonas aeruginosa, silver nitrate, artificial skin, skin dressing, rat, 1985
- lactic acid**, carbon dioxide, computer program, glucose, glycolysis, metabolism, pyruvic acid, warburg apparatus, 3158
- laminar air flow**, computer model, arbitaross section, 131
- lamp**, discharge, eye, infrared radiation, laser, light, radiation hazard, retina, ultraviolet radiation, halogen lamp, lesion, evaluation, 3746
 - light, spectrometry, radiometry, tungsten, spectral power distribution, 1456
 - light, light polarizer, polarography, tungsten lamp, 2207
 - power supply, projector, 721
 - power supply, microlamp, radiation stability, 3010
 - spectrum, review of commercial lamp, 1452
- landolt ring**, vision, pattern recognition, 1903
 - visual acuity, projector, zoom lens, 2336
- language**, computer, learning, speech, display system, second language learning, 757
 - computer, computer program, time reduction, markov algorithm, 2968
- laparoscopy**, coil, trocar, 847
 - infrared photography, ovulation, monkey, infrared photolaparography, 1476
- laplace law**, cell, diffusion kinetics, 1254
 - cell, cell division, model, percentage labeled mitoses, 2393
 - cell kinetics, computer model, digital computer, mathematic model, cell division, radioisotope, transit time, laplace transfer method, 3580
 - radiation, transport equation, 277
- laryngography**, cineradiography, data processing, digital computer, lip, lip movement, speech, image processing, 1140
- laryngoscopy**, anesthesia, artificial ventilation, ventilating laryngoscope, 1152
 - fiberscope, 779
- larynx**, microphone, stroboscopy, improvement, probe microphone, 2292
- laser**, actin, calcium, excitation contraction coupling, muscle fiber, tropomyosin, troponin, quasielastic scattering, 512
 - aerosol, holography, particle sizing, 700
 - application, 1467
 - air pollution, environmental health, infrared radiation, spectrometry, hydrogen cyanide, water vapor, 1510
 - aerosol, air pollution, environmental health, smoke, detection system, 1543
 - aerosol, atmosphere, environmental health, light, light reflection, aerosol analysis, 2244
 - anemometry, spectrum broadening, 2630
 - atmosphere, light absorption, 2655
 - air pollution, environmental health, light absorption, nitrous oxide, 3016
 - aircraft, holography, sonic boom, supersonic aircraft, 3041
 - blood clotting, retina detachment, review, 400

- blood clotting, ciliary body, eye, iris, rabbit, histopathology, 1599
- cell, silicon dioxide, quartz hardening, 291
- collagen, light, second harmonic generation, 1296
- carbon dioxide, carbon dioxide laser, power measurement, 1444
- cancer, dermatology, safety, book, 1824
- carbon dioxide laser, manometer, interferometry, 2628
- carbon dioxide laser, light, power measurement, simple method, 2645
- calorimetry, power measurement, pulsed laser, 2650
- calorimetry, power measurement, pulsed laser, 2651
- carbon dioxide laser, siemens lg 1062, 3398
- digital output, 1042
- dentistry, holography, tooth, introduction, 3011
- doppler effect, flow, doppler echo, 3392
- discharge, eye, infrared radiation, light, radiation hazard, retina, ultraviolet radiation, halogen lamp, lesion, lamp, evaluation, 3746
- eye, infrared radiation, radiation hazard, eye protection, 1573
- eye, industrial medicine, optic filter, radiation hazard, radiation protection, filter optimization, 3009
- environmental health, hearing, noise, sound, environmental noise, 3437
- filter, fourier transform, 31
- flowmeter, doppler effect, flow, flow visualization, 1778
- holography, interferometer, polychromatic holography, 1779
- image converter, infrared radiation, parametric conversion, 668
- interferometer, ultracentrifugation, trigger, pulsed laser, 714
- inexpensive, rogowski tea laser, 719
- injection, chemical laser, liquid injector, 3405
- light chopper modulator, light diffraction, 715
- light, thin film laser, 2663
- light absorption, radioisotope, spectrometry, chemical kinetics, 2674
- light, reflector, cylindrical reflector, 3007
- light, molecular weight, calibration, 3401
- monitoring, sensitive, 1039
- optic disk, radiation hazard, retina, spot diameter estimation, rhesus monkey, 1574
- roentgen apparatus, roentgen generator, roentgenography, neodymium glass, 428
- recorder, 1362
- resonator, cylindrical resonator, 2656
- retina cone, retina rod, argon laser, differential susceptibility, histology, electron microscopy, monkey, 2774
- radiation energy, electromagnetic radiation, volume characteristic, 3006
- shutter, shutter test, 288
- shutter, crystal shutter, 290
- switch, 60 kv switch, 2504
- spectroscopy, microanalysis, 2647
- spectrometry, application, 3003
- television, projector, display system, 1776
- television, film camera, 2157
- television, projector, light deflector, bragg cell, 2160
- television, projector, light deflector, bragg cell, 2580
- thermal radiation, photographic film, sensitivity, 2966
- tuning, 3413
- vestibular system, selective ablation, monkey, 803
- wavefront, 283
- latent period**, cochlea, cochlea microphonic potential, cochlear nerve, nerve potential, hair cell, guinea pig 1921
 - computer, minnesota multiphasic personality inventory, psychologic test, 1982
 - electrostimulation, median nerve, nerve potential, stimulation artifact, wrist, sensory nerve, 948
- lateral geniculate body**, brain depth recording, electrode implantation, stereotaxic implantation, thalamus 1880
 - brain depth recording, brain steady potential, electrode, lateral geniculate body nerve cell potential, simple electrode configuration, 3100
 - entropy, nerve cell potential, red nucleus, reticular formation, stochastic model, markov process, 152
- lateral geniculate body nerve cell potential**, brain depth recording, brain steady potential, electrode, lateral geniculate body, simple electrode configuration, 3100
- lateral line system**, cochlea, hearing, mechanoreceptor, potassium, hair cell, fish, mechanosensitivity, 555
- late receptor potential**, aspartate, electroretinography, hydrogen ion, bullfrog, 1323
- law**, medical instrumentation, 882
- lead**, artery, catheter, tissue reaction, vein, tissue reaction, dog, lead loss, 3707
 - cobalt 60, dosimetry, filter, gamma radiation, radiotherapy, uterine cervix, uterine cervix carcinoma, cancer, 3514
 - neutron radiation, graphite, 1503
- learning**, arm, computer model, vision, visual adaptation, 1259
 - brain, creativity, model, nerve cell, nerve cell model, creative process simulation, 1656
 - blindness, heart tape recorder, high play back speed, 3501
 - computer, language, speech, display system, second language learning, 757

- conditioning, instrumental conditioning, study apparatus, monkey, 798
- character, pattern recognition, character reader, learning classifier, 2131
- computer model, nerve cell, self organizing system, 3265
- conditioning, semiautomatic device, rat, 3483
- excitatory postsynaptic potential, inhibitory postsynaptic potential, mathematic model, memory, model, nerve cell, nerve cell model, synapse, 3264
- model, task performance, children, neo piagetian model, 3094
- memory, model, finite and infinite memory range, 3585
- pitch perception, speech, vowel, pitch discrimination, fundamental frequency, synthetic speech, sound spectrograms, 2876
- left heart ventricle**, assisted circulation, hemodynamics, model, 120
 - aorta pressure, mathematic model, left heart ventricle volume, in vivo estimation, 777
 - aorta flow, edema, energy transfer, heart failure, heart work, mathematic model, 1094
 - adrenalin, chlorpromazine, coronary artery flow, heart output, isoprenaline, propranolol, aorta balloon pump, dog, 1530
 - blood pressure, diagnosis, heart disease, heart model, heart rate, peripheral vascular resistance, heart muscle contractility, control system, 357
 - coronary artery flow, glyceryl trinitrate, heart ventricle compliance, left heart ventricle pressure, left heart ventricle volume, sinusoidal forcing function, dog, 1536
 - cineangiography, automatic boundary detection, 1585
 - cineangiography, computer, television, 1977
 - endocardium, epicardium, heart muscle cell, mathematic model, preload, 546
 - energy transfer, heart ventricle work, model, heart ventricle systole, left heart ventricle pressure, left heart ventricle enddiastolic volume, left heart ventricle volume, concentric layer model, 1093
 - heart ventricle wall, 3 dimensional geometry, 370
 - heart model, mathematic model, model, heart muscle contraction, motion, 547
 - heart model, heart muscle cell, mathematic model, geometrical parameters, 918
 - heart model, heart muscle, mathematic model, composite material, 946
 - heart ventricle volume, angiocardiology, automated background correction, 1873
 - mathematic model, 916
- left heart ventricle ejection**, artery pulse, artery pulse pressure, left heart ventricle volume, closed chest method, dog, 1535
 - digital computer, scintillation camera, serum albumin tc 99m, calculation, 362
- left heart ventricle enddiastolic volume**, energy transfer, heart ventricle work, left heart ventricle, model heart ventricle systole, left heart ventricle pressure, left heart ventricle volume, concentric layer model, 1093
- left heart ventricle pressure**, blood pressure, circadian rhythm, electrocardiography, telemetry, right heart ventricle pressure, implantation, implantable, monkey, 1098
 - blood flow, heart left ventricle, model, heart left ventricle ejection, parameter, 2904
 - coronary artery flow, glyceryl trinitrate, heart ventricle compliance, left heart ventricle, left heart ventricle volume, sinusoidal forcing function, dog, 1536
 - energy transfer, heart ventricle work, left heart ventricle, model, heart ventricle systole, left heart ventricle enddiastolic volume, left heart ventricle volume, concentric layer model, 1093
- left heart ventricle volume**, aorta pressure, left heart ventricle, mathematic model, in vivo estimation, 777
 - artery pulse, artery pulse pressure, left heart ventricle ejection, closed chest method, dog, 1535
 - coronary artery flow, glyceryl trinitrate, heart ventricle compliance, left heart ventricle, left heart ventricle pressure, sinusoidal forcing function, dog, 1536
 - energy transfer, heart ventricle work, left heart ventricle, model, heart ventricle systole, left heart ventricle pressure, left heart ventricle enddiastolic volume, concentric layer model, 1093
- leg**, cerebellum, deafferentation, locomotion, nerve cell, nerve cell potential, spinal cord, spinocerebellar tract, cat, 2757
 - equilibrium, mathematic model, concept, 3576
- leg blood flow**, ankle, artery obstruction, plethysmography, thigh, measurement, 1088
- length measurement**, analog measurement, digital measurement, review, 689
- lens**, cornea contact lens, eye, myopia, vision, eye glasses, 17,000 cases, progressive myopia, comparison, 1116
 - camera, photography, modulation transfer function, 30 objectives, 2573
 - electron microscopy, modulation transfer function, electrostatic lens, 232
 - eye injury, spectacle glasses, injury reduction, 2770
 - focusing analysis, 2890
 - glass sphere, 654
 - holder clip, 406
 - image, vibration, wide aperture lens, 1696
 - optic cement, visual system, moisture resistant cement, 1820
 - positioning, wide angle, 282
 - polymethylmethacrylate, lens fabrication, moulding, 879
 - prism, visual acuity, fresnel lens, 2482
 - photography, image processing, fresnel lens, 2659
 - ultrasonics, 3689
 - visual system, aspherical surface, centering, 2960
- lesion**, discharge, eye, infrared radiation, laser, light, radiation hazard, retina, ultraviolet radiation, halogen lamp, lamp, evaluation, 3746
- leucine**, hydrostatic pressure, phenylalanine, protein synthesis, ribosome, polyuridylic acid, 1241

leukocyte, blood analysis, classification, 347

- cancer cell, chromosome, computer program, leukocyte count, 853
- digital computer, hematology, pattern recognition, 1623
- newborn, osmotic resistance, first 24 hours, 342

leukocyte antigen hl a1, computer program, HL A system, tissue typing, pitfalls in the use of isoantibodies, 851

leukocyte count, blood cell count, erythrocyte count, correction table for automatic method, 1077

- cancer cell, chromosome, computer program, leukocyte, 853

leukocyte motility, phagocytosis, 2 dimensional random walk analysis, 2725

level control, cryogenics, nitrogen, detector, 1427

lidocaine, computer, electrocardiography, heart arrhythmia, heart ventricle, monitoring, ouabain, phenytoin, mouse, 2801

life, cancer, computer program, death, therapy, nonparametric k sample test, 1603

light, atmosphere, model, sunlight, sun, solar flux, 1450

- aerosol, atmosphere, environmental health, light transmission, aerosol analysis, 2243
- aerosol, atmosphere, environmental health, laser, light reflection, aerosol analysis, 2244
- argon, helium, krypton, ultraviolet radiation, xenon, 2676
- anesthesia, automatic light, 2799
- brightness, vision, visual discrimination, point light source, 3251
- choroid, mathematic model, retina, temperature, 549
- collagen, laser, second harmonic generation, 1296
- carbon dioxide laser, laser, power measurement, simple method, 2645
- color vision, illuminant d65, 3250
- digital computer, multichannel analyzer, 958
- digital computer, algorithm, 2603
- discharge, eye, infrared radiation, laser, radiation hazard, retina, ultraviolet radiation, halogen lamp, lesion, lamp, evaluation, 3746
- eye trauma, infrared radiation, ultraviolet radiation, 296
- eye, mathematic model, retina, temperature, 819
- fiberscope, angular distribution measurement, 2153
- flash lamp, xenon, gigawatt lamp, 2649
- hydrogen, spectrometry, ultraviolet radiation, lyman discharge, 2675
- infrared radiation, calibration, 18
- infrared radiation, ultraviolet radiation, radiometer, black body, self calibrating, 596
- illumination, mercury, mirror, design problem, 2665
- infrared radiation, temperature, large area source, temperature dependence, 2677
- illumination, vision, 100-800 lux., 2775
- image processing, source reconstruction, 3679
- light absorption, saturated absorption, theory, 1699
- light polarizer, polarography, lamp, tungsten lamp, 2207
- laser, thin film laser, 2663
- light absorption, motion picture, 2964
- laser, reflector, cylindrical reflector, 3007
- light absorption, refraction index, light reflection, slope method, 3012
- light absorption, model, refraction index, suspension, light reflection, colloid, spherical particle, 3013
- light absorption, model, dipole model, 3015
- laser, molecular weight, calibration, 3401
- magnetic field, mercury, voltage current relation, 3408
- measurement method, pile up, correction, 3409
- photometry, sunlight, 1458
- photolysis, ultraviolet radiation, xenon lamp, osram 150 w, intensifier, 2661
- photometry, tubular lamp, 3001
- reflectometry, ultraviolet radiation, fourier transform, 3019
- refraction index, 3439
- spectrometry, radiometry, tungsten, lamp, spectral power distribution, 1456
- temperature, radiometry, calibration, error, 3677
- ultraviolet radiation, 2 channel, 3022
- visual system, stray light reduction, 1447

light absorption, atmosphere, laser, 2655

- air pollution, environmental health, laser, nitrous oxide, 3016
- blood, colorimetry, model, photometry, light scattering, 289
- blood, colorimetry, photometry, light scattering, 345
- color vision, photoreceptor, retina, retina cone, visual pigment, anomalous dispersion, 565
- fiberscope, bending, 2154
- fiberscope, vision, conical optical fiber, 3680
- gas, photometer, ultraviolet radiation, liquid, 1045
- infrared radiation, refraction index, water, temperature dependence, 723
- infrared radiation, light polarizer, model, crystal, dichroism, 3014
- infrared radiation, photoelectric cell, 3415
- light transmission, water pollution, alpha meter design, 1596
- light, saturated absorption, theory, 1699
- laser, radioisotope, spectrometry, chemical kinetics, 2674
- light, motion picture, 2964

- light, refraction index, light reflection, slope method, 3012
- light, model, refraction index, suspension, light reflection, colloid, spherical particle, 3013
- light, model, dipole model, 3015
- multipass cell, variable light pass, 2654
- model, roentgen radiation, spectrometry, magnetism, infrared absorption, analysis, 2662
- photoreceptor, rhabdomere, bee, 408
- spectrometry, high pressure, 2669
- light adaptation**, brightness, vision, visual masking, 2892
 - colorimetry, color vision, spectral sensitivity, visual pigment, visual system, 2898
 - chromatic adaptation, color vision, critical flicker fusion, monochromatic light, vision, 3249
 - dark adaptation, optics, rhabdomere, cockroach, 1697
 - dark adaptation, electroretinography, frequency analysis, retina, oscillatory potentials, light intensity, man, 3615
 - retina, vision, contrast, psychophysical retinal organization, 101
- light chopper modulator**, 1469
 - laser, light diffraction, 715
 - light modulator, crystal, 1472
 - radiation counting, pulsed radiation, 2648
 - shutter, kdp crystal, electro optic shutter, 713
 - signal detection, light detection, pulse shape, non uniform noise, 884
- light deflector**, laser, television, projector, bragg cell, 2160
 - laser, television, projector, bragg cell, 2580
- light detection**, diode, monochromator, voltage controlled monochromator, 1216
 - information theory, signal detection, low level, 1288
 - light chopper modulator, signal detection, pulse shape, non uniform noise, 884
 - semiconductor, stimulus isolator, 2438
 - visual system, photo electric system, non linear pulse, 2440
- light diffraction**, laser, light chopper modulator, 715
 - movement perception, retina image, image processing, image motion, 2065
 - scalpel, razor blade, 1827
- light modulator**, light chopper modulator, crystal, 1472
 - modulated light, sensometer, non selective modulation, 1443
 - modulated light, semiconductor, cdte crystal, 2668
 - vision, response function, sine, square wave, 100
- light polarizer**, infrared radiation, light absorption, model, crystal, dichroism, 3014
 - light, polarography, lamp, tungsten lamp, 2207
- light pollution**, aerosol, atmosphere, environmental health, laser, light, aerosol analysis, 2244
 - aerosol, atmosphere, environmental health, aerosol analysis, 2245
 - color, colorimetry, 2667
 - fruit, infrared radiation, tomato, 2210
 - fluorescence, optic filter, photometry, spectrometry, reflection measurement, 3402
 - light, light absorption, refraction index, slope method, 3012
 - light, light absorption, model, refraction index, suspension, colloid, spherical particle, 3013
 - paint, 3004
- light scattering**, blood, colorimetry, light absorption, model, photometry, 289
 - blood, colorimetry, light absorption, photometry, 345
 - cell, chloroplast, erythrocyte, mitochondria, particle volume, 105
 - cell membrane, factor analysis, membrane, roentgen scattering, 533
 - glass, fabrication, turbidity standard, light scattering simulator, 1040
 - photography, photometer, photographic method, 1043
 - photometer, scattering, multiple diffusion, 1818
- light transmission**, aerosol, atmosphere, environmental health, light, aerosol analysis, 2243
 - fiberscope, 2657
 - infrared radiation, refraction index, dispersion analysis, 1477
 - light absorption, water pollution, alpha meter design, 1596
 - photometer, ultraviolet radiation, fm 85, 1044
- limiter**, indicator, strip chart recorder, indicator protection, current limiter, 3301
- linear accelerator**, dosimetry, radiotherapy, roentgen radiation, conization chamber, 3759
 - pulse generator, radiation, radiotherapy, nuclear radiation, trip out circuit, 1035
- linear energy transfer**, dosimetry, model, radiation hazard, mean quality factor measurement, 158
 - dosimetry, gamma radiation, lithium fluoride dosimeter, model, roentgen radiation, thermoluminescence non linearity, 304
- linear system**, algorithm, stochastic model, 522
 - breathing mechanics, model, 913
 - biology, diet, mathematic model, 2177
 - biology, biological system, linearity test, 3213
 - eye movement, saccadic eye movement, oculomotor system, linear system studies, 544
 - enzyme kinetics, stochastic model, chemical kinetics, open linear system, 1230
 - electroencephalography, nonperiodic undamped oscillation, 1316
 - model, kruskal wallis model, non parametric model, 2019
 - non linear system, detector, collapsing loss, 163
 - statistics, filtering, non gaussian distribution, 1256
- lip**, cineradiography, data processing, digital computer, laryngography, lip movement, speech,

- image processing, 1140
- lipid**, heart valve prosthesis, silastic, 1089
- lipid membrane**, cell membrane potential, photostimulation, 141
 - cell membrane conductance, membrane potential, 1311
 - cytochrome c, protein, roentgen analysis, membrane structure, 2860
 - fluorescence, membrane potential, staining, 1 anilinoanthracene 9 sulfonate, 587
 - mathematic model, membrane permeability, ion, 1646
 - membrane permeability, dielectric constant, membrane capacitance, tetraphenylborate sodium, 3225
- lipid peroxide**, chemoluminescence, erythrocyte membrane, iron, ultraviolet radiation, 2847
- lip movement**, cineradiography, data processing, digital computer, laryngography, lip, speech, image processing, 1140
- lipolysis**, adrenalin, fat cell, perfusion system, 2246
- liquid**, gas, light absorption, photometer, ultraviolet radiation, 1045
 - microwave radiation, absorption cell, 4 gh_z, 3423
- liquid chromatography**, carbon 14, radioisotope, tritium, uridine h 3, 3042
- liquid nitrogen**, container, erythrocyte, erythrocyte preservation, 3054
- literature**, bibliography, computer, retrieval, documentation, effectivity, 480
 - computer program, psychophysiology, 1630
 - data processing, retrieval, golem siemens, 482
- lithium fluoride**, dosimetry, manganese, thermoluminescence, activation by manganese, 2700
- lithium fluoride dosimeter**, dosimetry, gamma radiation, linear energy transfer, model, roentgen radiation thermoluminescence, non linearity, 304
 - dosimetry, thermoluminescence dosimeter, critical observation, 305
 - dosimetry, glow peak growth, 430
 - dosimetry, environmental health, thermoluminescence, nuclear instrumentation, nuclear radiation, caso4:dy, 1496
- lithotripsy**, bladder stone, 1896
 - bladder stone, hydroelectric device, urati, 2301
- liver**, computer, digital computer, scintigraphy, television, 483
 - cooling, fluorescence, temperature, mitogenesis, mouse, 1860
 - digital computer, model, plasma, thyroxine, compartment model, distribution model, man, 886
 - ionized air, liver slice, metabolism, oxygen consumption, rat, 2247
 - kidney, magnetic field, mitochondria, oxidative phosphorylation, ultrasonics, rat, 2637
 - liver blood flow, liver impedance, portal vein, portal vein obstruction, rat, 3053
 - liver injury, phantom, scintigraphy, siemens scintimat, 3525
- liver blood flow**, argon, brain blood flow, carbon dioxide, carbon dioxide tension, kidney blood flow, mass spectrometry, nitrogen, oxygen, oxygen tension, skin blood flow, 1531
 - liver, liver impedance, portal vein, portal vein obstruction, rat, 3053
 - radioiodinated human serum albumin, sodium iodide i 131, xenon 133, 764
- liver cell**, morphology, rat, 1698
- liver disease**, colorimetry, spectrometry, urobilin, spekol, 3481
- liver impedance**, liver, liver blood flow, portal vein, portal vein obstruction, rat, 3053
- liver injury**, liver, phantom, scintigraphy, siemens scintimat, 3525
- liver perfusion**, hyperbarism, hypothermia, ph, organ perfusion, automatic ph adjustment, 1861
- liver preservation**, new perfusion preservation system, pig, 1859
- liver slice**, ionized air, liver, metabolism, oxygen consumption, rat, 2247
- local anesthesia**, aspiration, syringe, nerve type, 1945
- lock in amplifier**, amplifier, phase detection, 608
 - amplifier, waveform independent, 965
 - amplifier, high frequency, heterodyne amplifier, 1353
 - amplifier, nuclear magnetic resonance, varian ha 100, 1483
 - distortion, 172
 - integrated circuit, operational amplifier, digital system, 1741
 - phase detection, non periodic signal, 618
 - phase detection, signal noise ratio, analysis, 619
 - phase lock amplifier, application, 3629
 - square wave generator, reference generator, 1344
- locomotion**, bone, calcaneus, skeleton deformity, 3592
 - circadian rhythm, eye, motor activity, photoreceptor, crayfish, 409
 - cerebellum, nerve cell, nerve cell potential, fastigial nucleus, interpositus nucleus, cat, 2307
 - cerebellum, deafferentation, leg, nerve cell, nerve cell potential, spinal cord, spinocerebellar tract, cat, 2757
 - cineradiography, jumping, motor activity, primates, 2790
 - cerebellum, purkinje cell, walking, cerebellum anterior lobe, cat, 3738
 - decerebration, dorsal spinocerebellar tract, muscle contraction, nerve cell, 2766
 - electromyography, muscle tone, stimulator, telemetry, free moving, rabbit, 1753
 - flagella, model, locomotion, 1583
 - gait, model, walking, 1272
 - gait, walking, shoe, 1580
 - neuromuscular system, testing device, 1128
- logarithmic amplifier**, amplifier, direct current amplifier, six decades, 613
 - amplifier, photometry, 2519
 - amplifier, current meter, dosimetry, electron microscopy, picoammeter, 3286

- analog computer, adjustment, 3361
- operational amplifier, intersil 8007, 2436
- photometry, spectrometry, double beam photometer, 3284
- logic circuit**, electronic counter, oscilloscope, 3300
 - integrated circuit, development, 1987
 - 1st testing, 3368
 - power supply, n mos device, 3306
- long bone**, bone, rheology, bending load, experimental study, 2038
- loudness**, amplitude modulator, hearing, loudness discrimination, gold fish, amplitude modulated signals, 805
 - acoustic nerve, auditory masking, hearing, nerve potential, sound, man, postmasking recovery, external meatus electrode, 2058
 - basement membrane, cochlea, computer model, hearing, model, band pass noise stimulus, 1679
 - hearing, masking, perception, sound perception, 556
 - hearing, motion sickness, reaction time, vision, visual illusion, auditory reaction time, 1117
- loudness discrimination**, amplitude modulator, hearing, loudness, gold fish, amplitude modulated signals, 805
 - auditory masking, binaural hearing, hearing, phase discrimination, three listening conditions, 1685
 - binaural hearing, frequency discrimination, hearing, 552
 - binaural hearing, hearing, 1682
- loudspeaker**, computer program, forttrau, 2708
 - flat characteristic, 327
- low frequency generator**, amplitude stabilization, 1371
- low pass filter**, active filter, distributed filter, 181
 - active filter, design, 183
 - active filter, high pass filter, tunable filter, 2120
 - active filter, operational amplifier, selective amplifier, philips tca 220, design, 3283
 - band pass filter, computer program, digital filtering, design, 3371
 - chebyshev, equal ripple delay, 3290
 - evoked hippocampus response, mathematic model, hippocampus potential, component analysis, 2915
 - graphical design, 963
 - high pass filter, oscilloscope, 3 db point, 3289
 - maximal flat filter, 2522
- low temperature**, spectrometry, ultrasonics, 744
- lubrication**, joint, short review, biomechanics, 914
- luminance**, brightness, color vision, electroretinography, 2896
 - dark adaptation, visual acuity, time change, absolute threshold change, 1701
 - reaction time, vision, stimulus interval, 2483
- luminescence**, counter, half life time, photon counter, 1438
 - data processing, spectrophotometry, chemical kinetics, 3017
 - filter, fluorimeter, 3412
 - fluoroscopy, image intensifier, neutron radiation, radiation, radiography, roentgen radiation, modulation transfer function, luminescing screen, 3760
 - telemetry, enzyme, 2563
- lung**, analog computer, lung compliance, lung model, model, dynamic response prediction by model, 2067
 - air pollution, environmental health, particles 0.2-2 micron, steam condensation, 2747
 - breathing work, pleura, pleura pressure, frictional force, 66
 - blood, mathematic model, model, vectorcardiography, electrocardiography, dipole model, inhomogeneity 354
 - bone, computer, pancreas, scintigraphy, scintillation camera, 1201
 - blood flow, rheology, subclavian artery, 3461
 - displacement, gravity, lung alveolus, lung expansion, mathematic model, pleura, thorax pressure, finite element displacement analysis, 3672
 - hysteresis, lung model, mathematic model, lung alveolus surface tension, lung hysteresis, viscoelasticity 67
 - lung alveolus, lung diffusion, respiration, transport equation, boundary condition, 2299
 - lung ventilation, radiography, metal, parenchymal movement measurement, dog, 2749
- lung alveolus**, analog computer, blood pressure, brain blood flow, computer model, halothane, drug distribution, in vitro study, 434
 - air flow, balloon, blood flow, bubble, capillary, mathematic model, membrane, respiration, switch, nonlinear system, 3612
 - breathing mechanics, lung model, model, 62
 - body plethysmography, computer, computer program, gas analysis, spirometry, 3560
 - computer program, counter, digital computer, 1209
 - displacement, gravity, lung, lung expansion, mathematic model, pleura, thorax pressure, finite element displacement analysis, 3672
 - lung blood flow, lung diffusion, oxygen consumption, fluctuation, 375
 - lung, lung diffusion, respiration, transport equation, boundary condition, 2299
- lung alveolus carbon dioxide tension**, lung emphysema, lung ventilation, mathematic model, 3479
- lung alveolus oxygen tension**, arterial oxygen tension, lung diffusion, oxygen transport model, alveolar arterial oxygen gradient analysis, 1299
- lung alveolus pressure**, airway, airway resistance, lung pressure, lung resistance, model, oscillatory flow prediction, 64

- airway resistance, artificial ventilation, breathing mechanics, computer model, intermittent positive pressure breathing, flow pattern study, 3717
- lung alveolus surface tension**, hysteresis, lung, lung model, mathematic model, lung hysteresis, viscoelasticity, 67
- lung artery pressure**, aorta pressure, blood pressure, exercise, heart catheterization, heart ventricle pressure, telemetry, 3652
- blood pressure, computer, heart catheterization, lung vein pressure, lung wedge pressure, children, 2821
- lung blood flow**, chemodectoma, computer, lung ventilation, xenon 133, lung function, 1208
 - lung alveolus, lung diffusion, oxygen consumption, fluctuation, 375
- lung cancer**, computer, diagnosis, roentgenology, thorax radiography, case series, diagnosis, 466
- lung capillary**, bohr shift, carbon dioxide, gas exchange, oxygen, haldane effect, 3478
- lung compliance**, airway pressure, airway resistance, body plethysmography, breathing mechanics, mathematic model, panting, airway flow, 65
 - analog computer, lung, lung model, model, dynamic response prediction by model, 2067
 - abdomen, airway resistance, breathing mechanics, computer model, diaphragm, digital computer, 2823
 - airway resistance, lung resistance, respiratory tract resistance, measurement method, 3476
 - expiration, lung model, model, 541
- lung dead space**, lung model, model, 3610
 - mathematic model, gas washout test, 566
- lung diffusion**, arterial oxygen tension, lung alveolus oxygen tension, oxygen transport model, alveolar arterial oxygen gradient analysis, 1299
 - computer model, gas exchange, heart output, lung model, lung ventilation, nitrogen, 3254
 - gas analysis, gas exchange, mass spectrometry, miniature system, 2990
 - lung alveolus, lung blood flow, oxygen consumption, fluctuation, 375
 - lung, lung alveolus, respiration, transport equation, boundary condition, 2299
- lung disease**, digital computer, respiration, spirometry, lung function, data processing, 3561
- lung edema**, extracellular fluid, heart output, indicator dilution curve, thermodilution curve, measurement method, dog, 3079
- lung emphysema**, lung alveolus carbon dioxide tension, lung ventilation, mathematic model, 3479
- lung expansion**, displacement, gravity, lung, lung alveolus, mathematic model, pleura, thorax pressure, finite element displacement analysis, 3672
- lung function**, computer attachment, nomogram, 1322 subjects, 374
 - chemodectoma, computer, lung blood flow, lung ventilation, xenon 133, 1208
 - computer, spirometry, preliminary report, 1980
 - chronic obstructive lung disease, computer, heart output, impedance plethysmography, plethysmography, spirometry, 3077
 - computer, exercise test, spirometry, on line computer, 3784
 - digital computer, lung disease, respiration, spirometry, data processing, 3561
 - electrostimulation, pulse generator, 376
 - ergometry, spirometry, sport, telemetry, review, 647
 - lung ventilation, respirometry, remote transmission, 3076
 - monitoring, pneumography, rheology, design, 377
 - respirometry, spirometry, large animals, 2295
- lung hysteresis**, hysteresis, lung, lung model, mathematic model, lung alveolus surface tension, viscoelasticity, 67
- lung model**, airway, model, airway flow, model design, 61
 - airway, airway collapse, model, airway flow, 111
 - airway resistance, artificial ventilation, lung ventilation, engstrom respirator, lung model, 115
 - artificial ventilation, engstroem respirator, gas, lung ventilation, different respirator settings, 2041
 - analog computer, lung, lung compliance, model, dynamic response prediction by model, 2067
 - breathing mechanics, lung alveolus, model, 62
 - breathing mechanics, frequency analysis, respiratory tract, 3 to 70 cps, 337
 - computer model, digital computer, expiration, lung volume, 69
 - computer model, gas exchange, heart output, lung diffusion, lung ventilation, nitrogen, 3254
 - expiration, lung compliance, model, 541
 - hysteresis, lung, mathematic model, lung alveolus surface tension, lung hysteresis, viscoelasticity, 67
 - lung dead space, model, 3610
 - model, pneumotachography, validation, 63
- lung perfusion**, densitometry, fluoroscopy, lung ventilation, pulsatile perfusion determination, 110
- lung pressure**, airway, airway resistance, lung alveolus pressure, lung resistance, model, oscillatory flow prediction, 64
- lung resistance**, airway, airway resistance, lung alveolus pressure, lung pressure, model, oscillatory flow prediction, 64
 - airway resistance, lung compliance, respiratory tract resistance, measurement method, 3476
- lung vein pressure**, blood pressure, computer, heart catheterization, lung artery pressure, lung wedge pressure, children, 2821
- lung ventilation**, airway resistance, artificial ventilation, lung model, engstrom respirator, lung model, 115
 - arterial carbon dioxide tension, arterial oxygen tension, artery, breathing, chemoreceptor, chemoreceptor reflex, hypercapnia, hypoxia, mathematic model, 778
 - artificial ventilation, engstroem respirator, gas, lung model, different respirator settings, 2041
 - airway pressure, artificial ventilation, cava vein, cava vein blood flow, inferior cava vein, vein blood flow, variously adjusted engstrom respirator, subdiaphragmatic flow pattern, dog, 2738

- airway pressure, artificial ventilation, cava vein, cava vein blood flow, inferior cava vein, vein blood flow, pressure control, subdiaphragmatic flow pattern, dog, bennett respirator, 2739
 - breathing rate, heart rate, skin temperature, traumatic shock, 1537
 - chemodectoma, computer, lung blood flow, xenon 133, lung function, 1208
 - computer, exercise test, gas exchange, metabolism, respiration, breath by breath analysis, 1979
 - computer model, gas exchange, heart output, lung diffusion, lung model, nitrogen, 3254
 - densitometry, fluoroscopy, lung perfusion, pulsatile perfusion determination, 110
 - exercise, lung volume, pneumotachygraphy, second time derivative v recording, 2296
 - lung, radiography, metal, parenchymal movement measurement, dog, 2749
 - lung alveolus carbon dioxide tension, lung emphysema, mathematic model, 3479
 - model, 3074
 - oxygen consumption, telemetry, training, transmitter, multichannel system, 1771
 - pleura pressure, xenon 133, non linear distribution theory, 373
 - respirometry, lung function, remote transmission, 3076
 - spirometry, disposable device, boehringer spirometer, 2297
 - lung volume**, computer model, digital computer, expiration, lung model, 69
 - exercise, lung ventilation, pneumotachygraphy, second time derivative v recording, 2296
 - lung wedge pressure**, blood pressure, computer, heart catheterization, lung artery pressure, lung vein pressure, children, 2821
 - catheter, swan ganz catheter, 40 cases, 1892
 - femoral vein, heart catheterization, right heart, percutaneous catheterization, 1097
 - lymphocyte**, blood, cell kinetics, electrokinesia, erythrocyte, thrombocyte, 3670
 - chromosome, dosimetry, roentgen radiation, chromosomal aberration, 1081
 - chromosome, lymphocyte culture, ultrasonics, 2232
 - cooling, thermocouple, cooling system, 3278
 - lymphocyte culture**, chromosome, lymphocyte, ultrasonics, 2232
 - lymphography**, infection, children, injection apparatus, 423
 - lymph vessel, cannulator, 2793
 - lymph vessel**, lymphography, cannulator, 2793
 - lysine h 3**, cytoplasm, electrostimulation, glia cell, nerve cell, nerve fiber, ribonucleic acid, tritium uridine incorporation, tritonia, 1558
 - lysosome**, cooling, glycerol, microsome, mitochondria, thermoluminescence, 2006
 - lysozyme**, electron paramagnetic resonance, myoglobin, myosin, protein, enzyme, functional group distance, 1833
-
- macromolecule**, birefringence, electrooptic shutter, 1314
 - computer program, protein, 3 dimensional structure, 1609
 - macrophage**, dose response, granulocyte, model, population, data processing, model, dose response curve, colony stimulating factor, 2845
 - magnesium**, aluminum, band pass filter, chlorine, roentgen radiation, titanium, 1 5 kev, 1059
 - artificial heart pacemaker, bioenergy, fuel cell, platinum, power supply, 3459
 - calcium, metabolism, nerve cell, potassium, ribonucleic acid, sodium, uridine h 3, mollusc, 2718
 - erythrocyte membrane permeability, methylene blue, neuraminidase, phosphoric acid, erythrocyte membrane potential, sulfate derivative, 3057
 - heart ventricle, temperature, heart muscle contraction, mollusc, 3703
 - magnet**, nuclear magnetic resonance, tunnel diode, generator, 2690
 - magnetic field**, 3 dimensional detector, 2640
 - alternation, magnetic field, 959
 - artificial heart pacemaker, 1870
 - artificial heart pacemaker, 2290
 - alternating current, power line interference, reduction, 2982
 - artificial heart pacemaker, 3050 mhz interference, electromagnetic interference, 3465
 - artificial heart pacemaker, pulse generator, interference, 3475
 - brain, urine, 17 hydroxycorticosteroid, histology, monkey, 1815
 - brain artery aneurysm, stereotaxic implantation, thrombus, magnetic controlled thrombosis, 1888
 - behavior, electric field, food intake, growth, motor activity, young chicken, 2642
 - blood clotting, fibrinolysis, 3452
 - coil, homogeneous field, 1036
 - computer, computer model, electron microscopy, design, 1386
 - calorimetry, temperature, low temperature, 2624
 - cell potential, setcreasea purpurea, 2910
 - caloric vestibular test, hearing, microwave radiation, semicircular canal, vestibular system, 3126
 - data processing, perception, 278
 - digital computer, spectrometry, sweep generator, electron spin resonance spectrometry, digital generator, 2689
 - electric field, electrocardiography, mathematic model, model, dipole model, 145
 - electron spin resonance, spectrometry, field marker, 1052
 - electrocardiography, electroencephalography, hospital, interference suppression, roentgen equipment, elevator, 2238
 - electroencephalography, rabbit, 2758
 - hyaloid eel, 2772

- heart rate, heart tape recorder, telemetry, 3651
- kidney, liver, mitochondria, oxidative phosphorylation, ultrasonics, rat, 2637
- light, mercury, voltage current relation, 3408
- muscle, muscle excitability, sartorius muscle, frog, 1129
- muscle contraction, nerve, nerve stimulation, frog, 1817
- measurement, review, 2639
- mathematic model, nerve cell, nerve cell activity generated magnetic field, 2921
- radiation absorption, electromagnetic radiation, dispersion equation, 3416
- strain gauge transducer, temperature, denfoil 1831 ne, gauge factor, 960
- magnetic lens**, digital computer, electron microscopy, sweep generator, electron probe, high voltage sweep 973
- magnetism**, light absorption, model, roentgen radiation, spectrometry, infrared absorption, analysis, 2662
- mammography**, new device, senoplex, 828
- mandible**, echography, joint, 3526
 - telemetry, position observation, 2248
- manganese**, dosimetry, lithium fluoride, thermoluminescence, activation by manganese, 2700
- manganese 54**, cesium 137, cobalt 57, cobalt 60, gamma radiation, mercury 203, sodium 22, tantalum 182, semiconductor detector, americum 241, yttrium 88, calibration, 2693
- man machine interaction**, adaptometry, 2864
 - computer, digital computer, face, face identification, 509
 - computer, computer program, book, 1605
 - computer model, task performance, display system, non compensatory tracking task, 1660
 - color vision, occupational health, red, green, 2351
 - computer, computer program, coronary care unit, heart infarction, ischemic heart disease, display, midas program, 3186
 - display system, auditory display, 98
 - eye movement, perception, retina, vision, visual system, total system evaluation, 2063
 - electrocardiography, electroencephalography, ergometry, stress, telemetry, 3645
 - frequency analysis, task performance, tracking performance, 1659
 - hearing, model, display system, 1245
 - hearing, task performance, vision, display system, audio visual display, 3218
 - information theory, memory, model, task performance, vision, display system, 42
 - model, display system, multi parameter model, 1247
 - skin resistance, stress, four electrode method, 272
 - television, signal noise ratio, pattern recognition, movement detection, 1257
- manometer**, carbon dioxide laser, laser, interferometry, 2628
 - experimental animal, intraocular pressure, rabbit, 1120
 - gauge, mcleod, organic liquid, 1431
 - heart ventricle, heart ventricle pressure, implantation, micromanometer, dog, 1099
- markov process**, entropy, lateral geniculate body, nerve cell potential, red nucleus, reticular formation, stochastic model, 152
 - mathematic model, mental health, psychiatry, statistics, 901
- marriage**, computer, computer program, 1973
- mask**, breathing, oxygen consumption, dog, 2373
- masking**, hearing, temporal integration, 551
 - hearing, loudness, perception, sound perception, 556
 - skin, skin receptor, strong stimulus of a subsequent weak one, 420
- mass screening**, computer, multiphasic health testing, 850
 - computer, electrocardiography, 860
 - chromosome, computer, karyotype, karyotyping, 1970
 - computer, diagnosis, electrocardiography, 3167
 - diagnosis, 1067
 - digital computer, electrocardiography, vectorcardiography, 2412
- mass spectrometry**, argon, brain blood flow, carbon dioxide, carbon dioxide tension, kidney blood flow, liver blood flow, nitrogen, oxygen, oxygen tension, skin blood flow, 1531
 - computer program, 463
 - data processing, data logger, 267
 - gas analysis, gas exchange, lung diffusion, miniature system, 2990
 - microprobe, 2618
 - oxygen 18, radioisotope, integrator, oxygen 16, isotope ratio, 2620
 - switch, atlas ch 4, peak switch controller, 1011
 - timer, 992
- maternal behavior**, blood sampling, newborn, nursing, kittens, blood samples, 2261
- mathematic model**, airway pressure, airway resistance, body plethysmography, breathing mechanics, lung compliance, panting, airway flow, 65
 - averaging, evoked cortical response, 151
 - aorta, elasticity, nonlinear properties, dog, 543
 - artery, artery model, computer model, static properties, 570
 - aggression, brain, nerve cell, 588
 - aorta pressure, left heart ventricle, left heart ventricle volume, in vivo estimation, 777
 - arterial carbon dioxide tension, arterial oxygen tension, artery, breathing, chemoreceptor, chemoreceptor reflex, hypercapnia, hypoxia, lung ventilation, 778
 - alpha rhythm, central nervous system, electroencephalography, epilepsy, excitation, inhibition,

nerve cell network, 940
 -aorta flow, edema, energy transfer, heart failure, heart work, left heart ventricle, 1094
 -adrenergic system, aqueous humor, intraocular pressure, 1123
 -aorta, aorta flow, pulsatile flow, shear stress, 1303
 -aorta flow, blood flow, blood pressure, diagnosis, model, pulsatile flow, aorta stenosis, stenosis, strouhal number, 1305
 -auditory system, model, nerve cell potential, probability model, 1691
 -aorta, aorta flow, artery, artery flow, blood pressure, iliac artery, nonlinear system, 1706
 -application, 2007
 -aged, artery, parameter, man, 2045
 -arterial ph, blood pressure, depressor nerve, pressoreceptor reflex, vagotomy, 2071
 -angiography, aorta wall, radiology, thickness measurement, in vivo, dog, 2277
 -aldosterone, body water, cardiovascular system, computer model, henle loop, kidney tubule, model, renin, sodium, vasopressin, kidney proximal convoluted tubule, 2756
 -artery obstruction, muscle blood flow, 2900
 -aorta flow, artery pulse, origin, 3063
 -attitude, computer, health service, therapy, 3153
 -aqueous humor, capillary pressure, intraocular pressure, 3444
 -air flow, balloon, blood flow, bubble, capillary, lung alveolus, membrane, respiration, switch, nonlinear system, 3612
 -brain, computer model, computer program, endocrine gland, model, nerve cell network, non linear system, 30
 -brain, elasticity, viscoelasticity, in vivo, 81
 -blood, lung, model, vectorcardiography, electrocardiography, dipole model, inhomogeneity, 354
 -bone, osteoporosis, geometric feedback, effect on development, effect of treatment on both types of bone, 915
 -brain, data processing, information, stimulation, 1111
 -blood vessel, elasticity, shear stress, orthotropic oval vessel, 1304
 -brain, elasticity, viscosity, relaxation response in vivo, 1561
 -blood flow, blood volume, computer program, dye dilution curve, radiotracer, flow measurement, third mixing chamber, 1628
 -brain cortex, electrocorticography, electroencephalography, nerve cell potential, synchronization analysis, 1906
 -bone, bone density, wave, 2040
 -basement membrane, cochlea, cochlea model, model, peterson bogert model, 2042
 -bladder, viscoelasticity, 2070
 -body, electric field, electrocardiography, heart electric field, polynomial function, 2079
 -biology, diet, linear system, 2177
 -body temperature, thermoregulation, review, 2720
 -blood, blood resistance, body temperature, hematocrit, model, dog, 2843
 -basement membrane, cochlea, hearing, model, 2884
 -blood, erythrocyte, rheology, shear stress, shear rates, wide range, 3055
 -blood flowmeter, electromagnetic flowmeter, flow meter equation, 3064
 -biomechanics, knee, biomechanical analysis, 3239
 -biology, model, enzyme, quantum mechanics, biological indeterminacy, 3571
 -collagen, 80
 -cartilage, joint, shear stress, 82
 -cerebrospinal fluid, cerebrospinal fluid flow, 118
 -carotid sinus pressoreceptor, model, 154
 -cell culture, cell division, growth, dispersionless growth, 537
 -choroid, light, retina, temperature, 549
 -computer model, heart conduction system, numerical simulation, dog, 768
 -color vision, visual field, complex system, 810
 -chromosome, age, 885
 -collagen, connective tissue, metabolism, proline h 3, rats, mathematic modelling, 894
 -conditioning, epilepsy, 941
 -central nervous system, nerve cell, 947
 -car driving, 1135
 -computer, diagnosis, 1183
 -computer, electrocardiography, heart arrhythmia, heart rate, monitoring, clinical use, 1185
 -cell, gas, model, tissue, gas diffusion, inert gas, heterogeneous tissue, 1298
 -capillary, capillary flow, review, 1310
 -cell membrane potential, finite difference solution, 1330
 -cell membrane potential, integral equation solution, 1331
 -computer, computer model, model, 1604
 -computer model, diagnosis, 1617
 -chronic disease, recurrent forecasts, model, 1644
 -cell, cell population, cell mass distribution model, 1647
 -cell membrane permeability, membrane, transport equation, 2 component system, 1648
 -cable, electric field, electrocorticography, nerve fiber potential, pyramidal nerve cell, polarization effect of ecog, 1723
 -cochlea microphonic potential, hair cell, guinea pig, 1725
 -computer model, diagnosis, ledley lusted model, 1954

- computer model, digital computer, glucose, glucose tolerance test, insulin, 1996
- cell population, cell volume, synchronized cell population, 2002
- cell membrane permeability, 2023
- circadian rhythm, model, feedback system, 2025
- cell membrane, cell membrane permeability, ion, onsager model, 2031
- computer model, entropy, nervous system, 2074
- cell membrane steady potential, model, ion, 2088
- cell membrane, cell membrane impedance, cell membrane potential, nerve fiber, nerve fiber potential, dielectric constant, fixed charge, 2091
- cell membrane, cell membrane potential, cell membrane steady potential, ion, fixed charge, potential profile, concentration profile, 2092
- circadian rhythm, model, feedback system, petal rhythm, kalanchoe, 2459
- calcium, model, muscle, muscle isometric contraction, myosin, 2865
- cardiovascular system, digital computer, parameter estimation, 2901
- computer model, nerve cell, nerve cell model, postsynaptic potential, synapse, input output relations, mollusc comparison, 2920
- capillary, kidney cortex, kidney plasma flow, kidney tubule absorption, kidney proximal convoluted tubule, peritubular control, rat, dog, 3090
- computer program, digital computer, medical research, layout, financial aspects, fortran iv, 3156
- collagen, connective tissue, metabolism, proline h 3, rats, mathematic modelling, 3223
- car driving, alertness, 3228
- cell membrane permeability, transport coefficient, 3233
- computer, vectorcardiography, 3559
- cell membrane permeability, gravitational stress, water, compartment model, calculation, 3579
- cell kinetics, computer model, digital computer, laplace law, cell division, radioisotope, transit time, laplace transfer method, 3580
- cell membrane conductivity, cell membrane resistance, cell potential, electric field, extracellular stimulation, 3622
- cholesterol, metabolism, 3692
- data processing, retina ganglion cell, retina image, vision, optical and neuronal principles, 802
- decision, diagnosis, model, bayesian approach, 1645
- death, genetics, model, population, statistics, disease, disease liability, recurrence risk, 2010
- deoxyribonucleic acid, model, one dimensional harmonic model, 2453
- dendrite, nerve cell, branch input resistance, 3621
- displacement, gravity, lung, lung alveolus, lung expansion, pleura, thorax pressure, finite element displacement analysis, 3672
- digital computer, indicator dilution curve, pitfalls, impulse response, transfer function, 3772
- electromyography, forearm, model, muscle, muscle model, 77
- electric field, electrocardiography, magnetic field, model, dipole model, 145
- electrocardiography, heart arrhythmia, 367
- endocardium, epicardium, heart muscle cell, left heart ventricle, preload, 546
- environmental health, model, sound absorption, sound propagation, 557
- eye, light, retina, temperature, 819
- electrocardiography, heart muscle potential, genesis model, 934
- electrocardiography, heart block, wienckeback period, 943
- electromyography, frequency analysis, motor unit, interference activity, 1321
- ecology, fertility, model, population, fertility distribution, 2027
- elasticity, heart, heart ventricle pressure, heart ventricle volume, heart muscle contractility, force velocity relation, 2043
- endplate potential, miniature endplate potential, noradrenalin, 2083
- excitable cell, nerve cell, locally homogeneous network, 2096
- electrocardiography, heart muscle conduction system, heart atrioventricular conduction, rat, model, 2492
- elasticity, heart model, heart ventricle, heart left ventricle, heart left ventricle enddiastolic volume, 2869
- evoked hippocampus response, low pass filter, hippocampus potential, component analysis, 2915
- electric field, electrocardiography, heart, generators, 3069
- excitatory postsynaptic potential, inhibitory postsynaptic potential, learning, memory, model, nerve cell nerve cell model, synapse, 3264
- erector spinae muscle, impact, spine, seatbelt, muscle influence, man, 3512
- equilibrium, leg, concept, 3576
- erythrocyte, erythrocyte membrane, rectangular and spherical model, 3581
- excitation, nerve cell, excitation spread, 3614
- fertility, genetics, population, statistics, genetic analysis, self fertilized population, rice wheat, 2014
- fetoplacental unit, fetus, labor, monitoring, review, 2017
- food intake, model, population dynamics, 3222
- freezing, membrane, water, 3577
- glucose, glomerulus filtration rate, kidney perfusion, sodium, kidney tubule absorption, rat, perfusion, 116
- gene, 515
- gas bubble, gas pocket, dissolution dynamics, 928
- gas, tissue, gas diffusion, inert gas, heterogeneous tissue, without perfusion, 1297
- growth, plant, 1643

- glycolysis, key step regulation, 2846
- gonorrhea, growth, model, 2862
- hysteresis, lung, lung model, lung alveolus surface tension, lung hysteresis, viscoelasticity, 67
- heart model, left heart ventricle, model, heart muscle contraction, motion, 547
- heart infarction, heart muscle, metabolism, oxygen consumption, heterogeneous permeability, 753
- heart model, heart muscle cell, left heart ventricle, geometrical parameters, 918
- heart model, heart muscle, left heart ventricle, composite material, 946
- heart muscle hypertrophy, heart ventricle pressure, heart ventricle wall, sarcomere, 1095
- hearing, music, 1122
- hemoglobin, oxygenation, ph, structure activity relation, 2,3 diphosphoglyceric acid, 2257
- hill model, parameter estimation, 2461
- heart left ventricle, stellate ganglion, inotropic response, heart left ventricle enddiastolic volume, 3596
- henle loop, kidney tubule absorption, 3613
- impact, muscle, skeleton, system analysis, feedback system, line graph flow graph procedure, 2033
- joint, speech, 3078
- kidney, model, ureter, ureter flow, analytical solutions, 571
- lung dead space, gas washout test, 566
- left heart ventricle, 916
- lipid membrane, membrane permeability, ion, 1646
- lung alveolus carbon dioxide tension, lung emphysema, lung ventilation, 3479
- menstrual cycle, 29
- memory, synapse, nerve cell network, 146
- model, nerve cell model, nerve potential, nerve cell network, cyclic inputs, 585
- mental health, psychiatry, statistics, markov process, 901
- muscle spindle potential, muscle stretching, dynamic and static stretch, firing pause, 1327
- muscle, neuromuscular transmission, synapse transmission, crab, 2050
- motoneuron, nerve, voltage clamp, survey, 2490
- model, sodium pump, thermodynamics, 2872
- motor unit potential, muscle isometric contraction, 2916
- magnetic field, nerve cell, nerve cell activity generated magnetic field, 2921
- mechanoelectric transducer, membrane, transducer, generator, 3587
- nerve cell, nerve cell potential, synapse transmission, epileptic nerve cell, 1320
- nerve cell, nerve cell network, impulse flow correlation, 1713
- nerve cell model, rational number generator, 1719
- noise, visual system, insect, 2090
- nerve fiber membrane impedance, hodgkin huxley equation, nerve fiber membrane, potassium, diffusion, 2496
- nerve cell, nerve cell code, retina ganglion cell, thalamus nucleus, visual system, coding distribution, cat, 2768
- nerve, nerve fiber membrane resistance, nonmyelinated nerve fiber, electric interaction, 3260
- polysynaptic reflex, rabbit, 1904
- presynaptic inhibition, synapse transmission, 2097
- reading, tactile reading, 2008
- radiology, scintiscanning, class of models, 2501
- scoliosis, spine, 74
- sex, why only 2 sexes, 510
- stochastic model, chemical reaction, chemical kinetics, bio mathematical model, 2005
- speech, 2480
- visual discrimination, pattern recognition, honeybee, 1291
- visual acuity, contrast, 1295
- vision, visual illusion, pattern recognition, 1564
- vision, band with consideration, multiple channel model, 2899
- mathematics**, information theory, model, nerve cell network, cofunction, 516
- maxilla sinus**, dentistry, radiodiagnosis, roentgen apparatus, temporomandibular joint, film cassette, cassette holder, 3138
- meat**, body composition, carcass, carcass composition, 2441
- mechanoelectric transducer**, mathematic model, membrane, transducer, generator, 3587
- mechanoreceptor**, cochlea, hearing, potassium, hair cell, lateral line system, fish, mechanosensitivity, 555
 - histogram, frequency response, 407
 - model, nerve cell potential, trigeminus nerve nucleus, racoon rhinarium, 143
- median nerve**, electrostimulation, latent period, nerve potential, stimulation artifact, wrist, sensory nerve, 948
- medical care**, emergency, telemetry, traffic accident, trauma, 2954
- medical education**, analog computer, medical school, physiology, 237
 - computer, examination, multiple choice test, physiology, 1950
 - deafness, hearing, 820
 - deafness, hearing, 821
- medical electronics**, medical instrumentation, evaluation scheme, sheffield, 2432
- medical engineering**, employment, comment, 1635
 - history, industry, 491
- medical instrumentation**, alternating current, heart ventricle fibrillation, threshold, dog, 1533
 - bioengineering, congress, lausanne 1971, 1634
 - hazard, responsibility, 3563

- law, 882
- medical electronics, evaluation scheme, sheffield, 2432
- safety, standards, necessity, costs, 952
- safety, standard, faults, 1227
- medical record**, administration, computer, outpatients, 3554
 - cancer, cancer radiotherapy, computer program, digital computer, 241
 - computer program, digital computer, radiation dose, radiotherapy, 471
 - computer, electrocardiography, gynecology, mark sense form, 481
 - cancer, computer program, data processing, radiotherapy, 863
 - computer, data processing, thyroid disease, numerical and logical method to thyroid medical records, 864
 - computer, france, 865
 - computer program, on line, natural language, 1191
 - cancer, computer, metastasis, retrieval, 1192
 - computer program, diagnosis, digital computer, hartford hospital, 1193
 - computer, data bank, integrated system, 1619
 - computer, retrieval, semantic analysis, 1620
 - computer, speech, telephone, touch tone telephone, 1967
 - computer, general practice, 2817
 - digital computer, psychiatry, cumulative patient register, 10 years, 1194
 - data processing, radiology, retrieval, system, 1621
 - data processing, digital computer, drug, hodgkin disease, therapy, advanced disease, 33 cases, survival, prognosis, 2811
 - data processing, digital computer, electrocardiography, hospital, clinical laboratory, 3160
 - digital computer, error, 3178
 - digital computer, retrieval system, data bank, design, 3547
 - strabismus, documentation, 3177
- medical research**, computer program, digital computer, mathematic model, layout, financial aspects, fortran iv, 3156
- medical school**, analog computer, medical education, physiology, 237
- medical student**, tonometry, hand held device, 3507
- medicine**, biology, motion picture, method, 1337
 - system analysis, problem solving, book, 1949
 - system analysis, problem solving, workbook, 3540
- medulla oblongata**, acetylcholine, adrenalin, blood pressure, brain blood flow, papaverine, propranolol, measurements, 1869
 - brain perfusion, carbon dioxide, carbon dioxide tension, cerebrospinal fluid, model, respiration, respiration control, 780
- membrane**, air flow, balloon, blood flow, bubble, capillary, lung alveolus, mathematic model, respiration, switch, nonlinear system, 3612
 - collodion, membrane resistance, 150
 - cell membrane, factor analysis, light scattering, roentgen scattering, 533
 - cell membrane, capacitance meter, 1436
 - cell membrane permeability, mathematic model, transport equation, 2 component system, 1648
 - cellulose, dialysis, dialysis membrane, 3205
 - calcium, electrostimulation, molecular biology, sodium, 3570
 - dextriferon, hemodialysis, cuprophane, 1545
 - freezing, mathematic model, water, 3577
 - membrane potential, electrical noise measurement, 149
 - model, nerve conduction, nerve fiber membrane, dipole model, rectification curve, squid, 945
 - model, self assembly, 2850
 - mathematic model, mechanoelectric transducer, transducer, generator, 3587
 - pore, molecular dimension, 51
- membrane capacitance**, lipid membrane, membrane permeability, dielectric constant, tetraphenylborate sodium, 3225
- membrane excitability**, membrane potential, model, 2072
- membrane oxygenator**, extracorporeal circulation, servo controlled unit, puppies, 3065
 - silicone, evaluation, 1106
- membrane permeability**, body fluid, model, distribution coefficient, 525
 - diffusion, transport equation, transport augmentation, 2878
 - lipid membrane, mathematic model, ion, 1646
 - lipid membrane, dielectric constant, membrane capacitance, tetraphenylborate sodium, 3225
 - osmotic pressure, compartment model, 2838
 - water, mechanical approach, 1269
- membrane potential**, action potential, air, phospholipid membrane, water, electric potential, 2077
 - cell membrane conductance, lipid membrane, 1311
 - cell function, phospholipid membrane, membrane resistance, 1312
 - calcium, model, excitable membrane, 3261
 - fluorescence, lipid membrane, staining, 1 anilinoanthracene 9 sulfonate, 587
 - membrane, electrical noise measurement, 149
 - model, membrane excitability, 2072
 - oxidative phosphorylation, phospholipid membrane, membrane distance, 2495
 - voltage clamp, initial current density, 1317

membrane resistance, collodion, membrane, 150

- cell function, membrane potential, phospholipid membrane, 1312

memory, amnesia, brain, retrograde amnesia, aspects, 790

- auditory discrimination, behavior, hearing, pattern recognition, auditory display, multidimensional coding, 2883
- brain, intelligence, model, nerve cell network, artificial intelligence, association, 574
- conditioning, escape behavior, heterogeneity, rat, 795
- computer memory, holography, infrared radiation, spectrometry, 1479
- comment, 1905
- computer model, digital computer, 2326
- computer, algorhythm, organisation, 3734
- engram, model, nerve cell, recall, 2911
- excitatory postsynaptic potential, inhibitory postsynaptic potential, learning, mathematic model, model, nerve cell, nerve cell model, synapse, 3264
- hearing, short term memory, speech, pattern recognition, 1683
- holography, model, 3586
- information theory, model, task performance, vision, display system, man machine interaction, 42
- learning, model, finite and infinite memory range, 3585
- mathematic model, synapse, nerve cell network, 146

menstrual cycle, mathematic model, 29

mental health, mathematic model, psychiatry, statistics, markov process, 901

meractinomycin, deoxycorticosterone, estradiol, hyperpolarization, muscle denervation, muscle fiber membrane, muscle fiber membrane potential, protein synthesis, ribonuclease, rat, 3046

mercury, air pollution, fluorescence, water pollution, fluorescence detector, 694

- battery, cell, comparison, 2925
- contamination, 1024
- illumination, light, mirror, design problem, 2665
- light, magnetic field, voltage current relation, 3408

mercury 203, cesium 137, cobalt 60, computer program, gamma radiation, disc source, self absorption, 738

- cesium 137, cobalt 57, cobalt 60, gamma radiation, manganese 54, sodium 22, tantalum 182, semiconductor detector, americium 241, yttrium 88, calibration, 2693

metabolic disorder, biochemistry, computer, diagnosis, osteopathy, 469

metabolism, brain cortex slice, electrostimulation, mitochondria, nerve cell, oxygen consumption, rat, mouse, 579

- body surface, oxygen consumption, jena stereometric camera, smk 5.5/0808, 3694
- collagen, connective tissue, mathematic model, proline h 3, rats, mathematic modelling, 894
- cell, model, 1267
- calorimetry, oxygen consumption, automatic compensating gradient lags, 1852
- cage, design, 1854
- computer, exercise test, gas exchange, lung ventilation, respiration, breath by breath analysis, 1979
- computer, computer model, computer program, metasim simulator, 2463
- calcium, magnesium, nerve cell, potassium, ribonucleic acid, sodium, uridine h 3, mollusc, 2718
- carbon dioxide, computer program, glucose, glycolysis, lactic acid, pyruvic acid, warburg apparatus, 3158
- collagen, connective tissue, mathematic model, proline h 3, rats, mathematic modelling, 3223
- cell, model, enzyme, 3443
- cholesterol, mathematic model, 3692
- genetics, model, protein synthesis, ribonucleic acid synthesis, thermodynamics, theory, 2052
- heart infarction, heart muscle, mathematic model, oxygen consumption, heterogeneous permeability, 753
- ionized air, liver, liver slice, oxygen consumption, rat, 2247
- oscillation, compartment model, feedback system, transport equation, multi compartment model, 908
- stochastic model, compartment model, chemotracer, 904

metal, electrode, electroencephalography, gold, iridium, platinum, palladium, rhodium, comparison, 392

- lung, lung ventilation, radiography, parenchymal movement measurement, dog, 2749
- plastic, total hip prosthesis, joint prosthesis, friction, frictional wear, several thermoplastic materials, pin and disk machine, dry and wet environment, 2352
- stainless steel, titanium, vitallium, zinc, corrosion, implantation, alloy, 1213

metallurgy, blood pressure, electrocardiography, occupational medicine, rheology, telemetry, 1769

metaphase, computer, microscopy, mitosis, automatic microscopy, 1624

metastasis, analgesia, bone, radiotherapy, roentgen apparatus, bone carcinoma, philips rt 255, hard ray therapy, 422

- cancer, computer, medical record, retrieval, 1192

meteorology, model, mortality, multivariate analysis, statistics, variance, 2449

methacrylic acid methyl acid, citric acid, erythema, eugenol, mouth mucosa, phosphoric acid, 1856

- plastic, voltage rise time, electric strength, 15

methane, cold neutron radiation, 3685

methemoglobin, paramagnetic resonance, hemoglobin, protein, nitroxide radical, paramagnetic centre distance, 2211

methoxyflurane, anesthetic equipment, cyclopropane, ether, halothane, rubber, drug absorption, 372

methylene blue, erythrocyte membrane permeability, magnesium, neuraminidase, phosphoric acid, erythrocyte membrane potential, sulfate derivative, 3057

methyl paraben, electrode, electrode paste, skin defect, skin reaction, 8 electrode jellies, 3394

mica, copper, electron microscopy, silver, calibration, crystal removing, 2591
microanalysis, laser, spectroscopy, 2647
microcalorimetry, calorimetry, cell culture, 3695
microcinematography, nerve, nervous tissue, tissue culture, mobility, rabbit, 3724
microcirculation, blood vessel, capillary, photoresistor, photosemiconductor,
 diameter measurement, sensor scan technique, 2283
 -chamber, long term observation, chamber technique, different types of chamber, 2109
microelectrode, amplifier, brain depth recording, capacitance, stereotaxic implantation,
 capacitance neutralization, 388
 -amplifier, differential amplifier, fet semiconductor, 3631
 -brain depth recording, micropipette, glass electrode, brain depth stimulation, brain depth injection,
 electrolyte leakage, 791
 -brain cortex, brain depth recording, nerve cell potential,
 method, intracellular recording, chronic animal, 2325
 -brain depth recording, electrode, stereotaxic implantation, design, use in man, 3486
 -cell membrane potential, electrode, voltage clamp, 140
 -coating, platinum, glass, tungsten, 275
 -corti organ, oxygen, ph electrode, tunnel of corti, guinea pig, 929
 -cell culture, heart muscle cell potential, miniature array, 1096
 -cell potential, cytology, direct current amplifier, compensation method, 2518
 -cell, micromanipulator, nerve cell, compact acceleration device, 3494
 -electrode resistance, meter, 2987
 -kidney tubule, puncture, 1547
 -kidney tubule, ph electrode, double barreled glass electrode, production, testing, 1895
 -micropipette, 162
 -nerve cell potential, nerve fiber potential, tungsten, 394
 -needle, tungsten, production, 705
 -nerve cell, tungsten, localization method, 3111
 -potassium, potassium electrode, double barrel electrode, modification, 2926
microelectrophoresis, assembly, 2112
microiontophoresis, iontophoresis, repeatable method, 1847
micromanipulator, cell, microelectrode, nerve cell, compact acceleration device, 3494
 -hydraulic remote control, 2505
 -micropipette, audio and hydraulic readout, 2511
micrometer, capacitance, 1029
microorganism, model, viability, nocardia corallina, slide culture, 2714
microphone, dosimetry, electret, piezoelectric transducer, voltmeter, electret device, 1991
 -electret, performance, construction, 9
 -echoencephalography, echography, encephalopathy, sector scanning, 2317
 -electret, transducer, properties, vateria indica, 2514
 -larynx, stroboscopy, improvement, probe microphone, 2292
 -radiation, polarization, electret microphone, 2233
 -response, carbon vs. magnetic microphone, 3282
 -sound, ceramic microphone, 743
 -static membrane deflection, 878
 -sound pressure, probe tube microphone, 1917
 -sound level measurement, omnidirectional microphone, 1948
micropipette, brain depth recording, microelectrode, glass electrode, brain depth stimulation,
 brain depth injection, electrolyte leakage, 791
 -cannula, hypophysis, hypothalamus, infusion, neuroendocrinology, neurophysiology, rat, 386
 -electrode resistance, linear voltage control, 274
 -microelectrode, 162
 -micromanipulator, audio and hydraulic readout, 2511
microscope slide, microscopy, specimen holder, 2102
microscopy, antibody, antigen, antigen antibody reaction, precipitation, 281
 -condenser obstruction, 671
 -computer, metaphase, mitosis, automatic microscopy, 1624
 -cell culture, nerve cell, nerve cell potential, perfusion chamber, 2309
 -chromosome, computer, computer program, digital computer, computer analysis, focus, 2819
 -circadian rhythm, cornea, cornea thickness, vickers image splitting eyepiece, 3118
 -cell, computer program, taxonomic intracellular analytic system, ticas, 3179
 -cell, digital computer, allergy, phase contrast microscopy, trypanosoma, position indicator,
 pattern recognition, 3770
 -development, review, 225
 -dust, scanning electron microscopy, 656
 -differential interference contrast microscope, variable wavefront shear, pupilar compensation, 1775
 -digital computer, image processing, 3 dimensional picture, 2589
 -electron microscopy, molybdenum, tungsten, cathode, flashing effect, 953
 -electron microscopy, image processing, image optimization, 3343
 -focus, photoelectric focusing, 226
 -fluorescence, 228
 -fluorescence, mucosa, rectum, fluorescent microscope, 2959
 -fiberscope, vibration, measurement method, amplitude and rate, 2979

- hydrostatic pressure, pressure chamber, 1-1600 atm, flagella, 3353
- image processing, variable phase, 987
- infrared radiation, television, high resolution, 1047
- neurosurgery, operating microscope, improvements, 1601
- photometry, spectrometry, cary 14 or cary 17, 2670
- soil, morphometrics, leitz quantimet 720, 1041
- specimen holder, microscope slide, 2102
- television, particle counter, 1393
- ultrasonics, drosophila melanogaster, simultaneous image presentation, 1387
- vision, optimal magnification, 2666
- microsome**, cooling, glycerol, lysosome, mitochondria, thermoluminescence, 2006
- microsome membrane**, electron spin resonance, endoplasmic reticulum, molecular organisation, 2851
- microspectrophotometry**, cell, deoxyribonucleic acid, design, 2927
- microsphere**, fluorescence, radioisotope, micosphere generator, 2619
- microsurgery**, ophthalmology, head rest, 443
- microtome**, knife, ultrasonics, diamond knife, ultramicrotome, 2239
 - knife, cryostate, jung k knives, 2930
- microwave oven**, industrial health service, microwave radiation, radiation protection, 727
- microwave radiation**, amplifier, impatt diode, 961
 - animals, 2450 mhz, 1069
 - absorption cell, liquid, 4 gh_z, 3423
 - bolometer, power measurement, calibration, 2679
 - caloric vestibular test, hearing, magnetic field, semicircular canal, vestibular system, 3126
 - electric field, radiation hazard, radiation monitoring, accuracy, 2214
 - endoplasmic reticulum, golgi apparatus, iodine 131, protein bound iodine, thyroid gland, ultrastructure, animal, 3683
 - holography, image processing, dielectric media, 3357
 - humidity, temperature, temperature measurement, density measurement, moisture measurement, 3420
 - heating, thermoreceptor, analysis, boa constrictor, 3500
 - industrial health service, radiation protection, microwave oven, 727
 - nuclear magnetic resonance, spectrometry, nuclear magnetic resonance spectrometry, endor spectrometer, 1834
 - power measurement, comparison method, 2213
 - power measurement, marconi, 3418
 - radiation hazard, radiation monitoring, electromagnetic radiation, 2678
 - sound, anechoic room, design, optical method, 299
 - spectrometry, 302
 - spectrometry, 726
- micturition**, bladder, urethra, function test, 383
 - newborn, urine sampling, alarm monitoring, 437
 - urethra flow, continuous recording, 1546
 - ureter, photoelectric measurement system, dog, 2754
- middle ear**, cochlea microphonic potential, corti organ, endolymph, hair cell, endolymphatic pressure, review, 801
- middle ear muscle**, ear drum, reflex, tensor tympani muscle, acoustic reflex, 2056
- midstream urine**, urine, urine sampling, midstream urine separator, 3086
- miniature endplate potential**, endplate potential, mathematic model, noradrenalin, 2083
 - sodium, synapse membrane, synapse vesicle, neurotransmitter, movement theory, 2493
- minnesota multiphasic personality inventory**, computer, latent period, psychologic test, 1982
 - computer program, psychologic test, 2429
 - computer program, psychologic test, 2430
 - computer program, psychologic test, 3785
- mirror**, illumination, light, mercury, design problem, 2665
 - semitransparent mirror, 1445
 - zoom lens, mirror tunnel, 1828
- mitochondria**, brain cortex slice, electrostimulation, metabolism, nerve cell, oxygen consumption, rat, mouse, 579
 - cell, chloroplast, erythrocyte, light scattering, particle volume, 105
 - cell, growth, electron microscopy, chinese hamster cell, 2004
 - cooling, glycerol, lysosome, microsome, thermoluminescence, 2006
 - kidney, liver, magnetic field, oxidative phosphorylation, ultrasonics, rat, 2637
- mitogenesis**, cooling, fluorescence, liver, temperature, mouse, 1860
- mitosis**, computer model, computer program, thymidine h 3, plm curve, monte carlo simulation, 536
 - computer, metaphase, microscopy, automatic microscopy, 1624
 - chromosome, computer, karyotype, karyotyping, measurement normalization, automatic karyotyping, 1625
 - cell cycle, 1649
 - cell, cell kinetics, computer model, rotating fourier ring, 1652
- model**, airway, lung model, airway flow, model design, 61
 - airway, airway resistance, lung alveolus pressure, lung pressure, lung resistance, oscillatory flow prediction, 64
 - airway, airway collapse, lung model, airway flow, 111
 - airway, airway pressure, cast, airway flow, flow physics, 112

- airway, airway resistance, bronchus, tube, airway flow, branched tube, 113
- assisted circulation, hemodynamics, left heart ventricle, 120
- airway, airway pressure, expiration, inspiration, airway flow, sinusoidal flow, 540
- axoplasmic flow, peristaltic drive, 751
- aorta flow, blood flow, blood pressure, diagnosis, mathematic model, pulsatile flow, aorta stenosis, stenosis, strouhal number, 1305
- atmosphere, light, sunlight, sun, solar flux, 1450
- auditory system, mathematic model, nerve cell potential, probability model, 1691
- actomyosin, muscle contraction, myosin, sliding filament theory, thread model, contraction mechanism 1702
- analog computer, blood flow, muscle blood flow, peripheral vascular resistance, calculation, 1976
- analog computer, lung, lung compliance, lung model, dynamic response prediction by model, 2067
- analog computer, computer model, nerve cell, nerve cell, 2075
- alpha rhythm, computer model, electroencephalography, nerve cell potential, nerve cell, 2080
- atmosphere, environmental health, fallout, radiation hazard, rain, nuclear radiation, poland, 2222
- acetylcholine, potassium, saliva, saliva gland, salivation, acinar cell, 2721
- aldosterone, body water, cardiovascular system, computer model, henle loop, kidney tubule, mathematic model, renin, sodium, vasopressin, kidney proximal convoluted tubule, 2756
- analog computer, computer model, decompression, diving, 2763
- aminoacid, genetics, statistics, taxonomy, alpha globin, dendrogram, network, chicken, 2842
- auditory nervous system, binaural hearing, long sound localization, model, 2879
- artery, artery model, artery wall, carotid artery, femoral artery, iliac artery, 5 component model, 2903
- avoidance behavior, punishment, 3229
- analog model, modulation transfer function, mtf measurement, 3231
- analog model, ear drum, external ear, 3235
- artery, artery wall, elasticity, noradrenalin, smooth muscle, viscosity, 3594
- basic description, 24
- brain, computer model, computer program, endocrine gland, mathematic model, nerve cell network, non linear system, 30
- breathing mechanics, lung alveolus, lung model, 62
- blood pressure, heart rate, regulatory system, open loop gain, 129
- blood, colorimetry, light absorption, photometry, light scattering, 289
- blood, lung, mathematic model, vectorcardiography, electrocardiography, dipole model, inhomogeneity, 354
- body fluid, membrane permeability, distribution coefficient, 525
- brain, intelligence, memory, nerve cell network, artificial intelligence, association, 574
- brain perfusion, carbon dioxide, carbon dioxide tension, cerebrospinal fluid, medulla oblongata, respiration, respiration control, 780
- brain, nerve cell model, integrator, nerve cell network, 793
- blood vessel, radiography, roentgen apparatus, 835
- breathing mechanics, linear system, 913
- basement membrane, cochlea, computer model, digital computer, 922
- blood flow, minimum energy dissipation, 930
- bone, fracture, wood, characterization of bone substance, bovine canine and anthropoid bone, histology, scanning electronmicroscopy, 1271
- blood, circulation, gas embolism, plasma, gas bubble, gas diffusion, chemical reaction, 1301
- blood flow, heart valve, flow pattern, 1306
- blood flow, blood volume, radiotracer, external counting, 1525
- brain, creativity, learning, nerve cell, nerve cell model, creative process simulation, 1656
- biomechanics, blood vessel, elasticity, hemodynamics, 1674
- basement membrane, cochlea, computer model, hearing, loudness, band pass noise stimulus, 1679
- blood rheology, erythrocyte, viscosity, liquid drop model, 1864
- breeding, genetics, process control, statistics, selection differentials, animal, plant, 2015
- basement membrane, cochlea, cochlea model, mathematic model, peterson bogert model, 2042
- binomial distribution, multivariate analysis, statistics, susceptibility factor, 2447
- body posture, equilibrium, man, vertical posture, 2474
- blood, blood resistance, body temperature, hematocrit, mathematic model, dog, 2843
- basement membrane, cochlea, hearing, mathematic model, 2884
- blood flow, heart left ventricle, left heart ventricle pressure, heart left ventricle ejection, parameter, 2904
- blood flow, plasma, plasma substitute, viscosity, oscillatory flow, 3058
- breathing mechanics, 3073
- bone, elasticity, viscosity, bovine bone, 3238
- basement membrane, cochlea microphonic potential, electric filter, electric network, 3243
- blood, cholesterol, drug, administration control, 3258
- body temperature, tissue, layered tissue, temperature distribution, 3445
- biology, mathematic model, enzyme, quantum mechanics, biological indeterminacy, 3571
- body posture, joint, movement, 3589
- brightness, vision, model application, 3606
- blood flow, blood vessel, tapered tube, 3611
- cell, cellular interaction, 26
- computer program, information theory, fortran, gentzen, church, ohama, calculus, 27
- compartment model, 28

- computer, computer model, digital computer, flagella, viscosity, sliding filament theory, 58
- cochlea, computer, computer model, digital computer, hearing,
 - cochlear partition, hybrid computer model, 91
- color vision, zone fluctuation model, 102
- color vision, line element derivation in zone, fluctuation model, 103
- cardiovascular system, fetus, 121
- cardiovascular system, computer model, vein, 122
- cerebellum, cerebellum cortex, nervous system, spatial filter, 142
- carotid sinus pressoreceptor, mathematic model, 154
- calorimetry, digital computer, thermocouple, transient heat, 258
- computer model, flash lamp, electron drift, electron diffusion, 294
- cytochrome, enzyme kinetics, oxidation, protein, semiconductor, solid protein, theory, 891
- conductivity, erythrocyte, suspension, 1031
- computer model, diagnosis, diagnosis model, 1180
- cell model, computer program, cyst, development, digital computer, algae, celia program, 1242
- computer program, myoglobin, protein, display system, structure visualization, 1266
- cell, metabolism, 1267
- cell, cell differentiation, sociology, relational force, 1268
- computer model, flagella, sliding filament theory, 1273
- cell, gas, mathematic model, tissue, gas diffusion, inert gas, heterogeneous tissue, 1298
- cell, oxygen transport model, new model, 1300
- circulation, circulation model, dye dilution curve, radiotracer, compartment model, chemotracer, 1302
- calcium, hodgekin huxley equation, potassium, sodium, excitable membrane, physicochemical model, 1329
- cornea edema, cornea stroma, sodium chloride, swelling pressure theory, 1567
- computer, computer model, mathematic model, 1604
- computer program, statistics, data fitting, chemical kinetics, fortran, 1607
- computer model, diagnosis, digital computer, 1613
- calcium, hodgekin huxley equation, potassium, sodium, excitable membrane, physicochemical model, 1720
- californium 252, radiotherapy, radiotracer, roentgen dose distribution, 2 dim vs. 3 dim model, 1931
- computer program, digital computer, drug, pharmacokinetics, 1953
- calcium, cell contact inhibition, bimolecular membrane, gramicidin a, membrane fusion, 1995
- city, city design, 1997
- cell motion, erythrocyte, holography, 2009
- circadian rhythm, mathematic model, feedback system, 2025
- cell membrane steady potential, mathematic model, ion, 2088
- computer model, computer program, nerve cell, 2332
- cell, laplace law, cell division, percentage labeled mitoses, 2393
- computer model, public health, public health service, demographic model, regional model, 2394
- computer program, developmental biology, 2395
- circadian rhythm, mathematic model, feedback system, petal rhythm, kalanchoe, 2459
- cell, molecular biology, statistics, 2460
- calcium, cell membrane permeability, potassium, sodium, excitable membrane, molecular mechanism, 2494
- chloride, muscle, nuclear magnetic resonance, proton, sodium, water, toad, 2785
- chronic disease, computer, diagnosis, heart failure, prognosis, symptom, aorta incompetence, 2810
- calcium, mathematic model, muscle, muscle isometric contraction, myosin, 2865
- calcium, cell membrane, cell membrane conductance, excitable cell, sodium, 2907
- cell membrane, excitable cell, excitable membrane, basic equation, 2909
- conditioning, face, movement, prosthesis, linear filter theory, cat, prosthesis, 3110
- computer model, digital computer, environmental health, 3221
- carcinogenesis, cybernetics, fertilization, genetics, information, regeneration, 3226
- computer model, enzyme, chemical kinetics, quantum model, oscillation, 3227
- colorimetry, color vision, photometry, retina fovea, spectral sensitivity, heterochromatic additivity, 3252
- calcium, membrane potential, excitable membrane, 3261
- cell, metabolism, enzyme, 3443
- computer model, electroencephalography, rem sleep, sleep, model vs rat, 3484
- conductivity, semiconductor, tissue, nonlinear system, theory, 3618
- carbon dioxide, vibration, 3687
- dosimetry, linear energy transfer, radiation hazard, mean quality factor measurement, 158
- dosimetry, gamma radiation, linear energy transfer, lithium fluoride dosimeter, roentgen radiation, thermoluminescence, non linearity, 304
- digital computer, fluoroscopy, roentgen apparatus, roentgen screen, modulation transfer function, image processing, 833
- digital computer, liver, plasma, thyroxine, compartment model, distribution model, man, 886
- diode, semiconductor, large signal model, 1218
- diffusion, gel, concentration, chemical kinetics, concentration equation, 1239
- display system, man machine interaction, multi parameter model, 1247
- diagnosis, 1255
- depth perception, rotation, vision, visual illusion, 1563
- decision, diagnosis, mathematic model, bayesian approach, 1645
- death, genetics, mathematic model, population, statistics, disease, disease liability, recurrence risk, 2010

- data processing, monitoring, statistics, curve fitting, time dependent data, 2013
- deoxyribonucleic acid, mathematic model, one dimensional harmonic model, 2453
- dose response, granulocyte, macrophage, population, data processing, model, dose response curve, colony stimulating factor, 2845
- decision, judgment, suicide, suicide prevention, 2861
- dendrite, nerve cell, nerve cell potential, postsynaptic potential, compartment model, 2918
- digital computer, eye, eyeball, parameter estimation, 3150
- digital computer, sea pollution, sound, temperature, 3385
- ecology, population, statistics, age dependent branching, 22
- eye fixation, eye movement, stochastic model, 75
- electromyography, forearm, mathematic model, muscle, muscle model, 77
- electrocardiography, inverse electrocardiography, parameters, 144
- electric field, electrocardiography, magnetic field, mathematic model, dipole model, 145
- expiration, lung compliance, lung model, 541
- environmental health, mathematic model, sound absorption, sound propagation, 557
- enzyme, chemical kinetics, threshold mechanism, 905
- epidemiology, public health service, statistics, classification, 910
- energy transfer, heart ventricle work, left heart ventricle, heart ventricle systole, left heart ventricle pressure, left heart ventricle enddiastolic volume, left heart ventricle volume, concentric layer model, 1093
- ecology, 1246
- elasticity, heart muscle, hill model, heart muscle contraction, heart muscle contractility, cat, quick release, 1277
- exercise, muscle blood flow, muscle oxygen tension, oxygen consumption, 1278
- elasticity, tissue, 1280
- erythrocyte, erythrocyte ghost, liquid drop model, 1309
- epilepsy, model comparison, 1319
- electroencephalography, sleep, wakefulness, 1715
- excitable cell, excitable membrane, heart muscle contractility, closed pathway formation, 1721
- earthquake, forecast, 1999
- ecology, fertility, mathematic model, population, fertility distribution, 2027
- electrocardiography, r wave, point process, 2081
- ecology, nutrient, nutrient conserving, man, 2179
- electroencephalography, sleep, damped oscillatory phenomenon, 2329
- elasticity, muscle fiber, sarcolemma, semitendinous muscle, anisotropic elastic properties, frog, 2359
- electromyography, movement, muscle, muscle contraction, voluntary movement, 2866
- engram, memory, nerve cell, nerve cell, recall, 2911
- electrocardiography, dipole model, eccentric quadrupole, 2917
- extrasystole, heart muscle, heart ventricle arrhythmia, vulnerability, frog, 3059
- electroretinography, photoreceptor, retina, sodium, cephalopod, 3120
- extraocular muscle, muscle performance, rapid eye movement, saccadic eye movement, optimum muscular performance, 3121
- excitatory postsynaptic potential, inhibitory postsynaptic potential, learning, mathematic model, memory, nerve cell, nerve cell model, synapse, 3264
- electron spin resonance, phase space representation, 3268
- epidemiology, infection, population, statistics, disease, 3578
- evoked response, nerve cell, nerve cell potential, 3619
- flow model, shear stress, square wall obstacle, 130
- flow, sound propagation, 3 d flow, 266
- flagella, mechanochemical model, 542
- fiberscope, modulation transfer function, image processing, interferometrically fiber optics, 664
- fusimotor muscle fiber, gamma system, muscle spindle, muscle spindle afferent nerve, muscle spindle afferent nerve group ia, 1274
- flagella, locomotion, locomotion, 1583
- fet semiconductor, semiconductor, 3202
- food intake, mathematic model, population dynamics, 3222
- growth, photography, mouse, 331
- gait, locomotion, walking, 1272
- genetics, metabolism, protein synthesis, ribonucleic acid synthesis, thermodynamics, theory, 2052
- gelatin, nuclear magnetic resonance, proton, agarose, 2101
- genetics, molecule, statistics, taxonomy, beta globin, dendrogram, network, 2841
- gonorrhea, growth, mathematic model, 2862
- heart model, left heart ventricle, mathematic model, heart muscle contraction, motion, 547
- heat conduction, thermodynamics, peaceman rachford method, 548
- hospital, patient care, dynamic model, 883
- hemorrhage, process control, life sustained function, 896
- hearing, display system, man machine interaction, 1245
- health care, public health, cost minimization, 1260
- hodgkin huxley equation, sodium, voltage clamp, diffusion, 1264
- heart papillary muscle, hill model, heart muscle contractility, cat, quick stretch, quick release, 1276
- heart rate, hodgkin huxley equation, phase detection, vagus nerve, phase sensitive model, 2089
- heart atrioventricular node, heart muscle conduction system, heart muscle, heart muscle potential, slow conduction, 2276

- heart rate, hemodynamics, variable simulator, 2472
- head, impact, head model, 2473
- helium, neutron detection, polyethylene, scintillation counting, delay, 2704
- heart rate, vagus nerve, feedback system, warner model, 3072
- holography, memory, 3586
- hearing, hearing threshold, sound, stimulus integration, 3599
- information theory, memory, task performance, vision, display system, man machine interaction, 42
- information theory, mathematics, nerve cell network, cofunction, 516
- information theory, speech, recognition, 524
- image processing, 2 dim. bayesian estimate, 1238
- impedance plethysmography, plethysmography, flow, 2284
- information, vision, pattern recognition, modulation transfer function, structured image, unstructured image, 2894
- infrared radiation, light absorption, light polarizer, crystal, dichroism, 3014
- information, state equation, nonstationary system, 3574
- industrial health service, noise, noise control, scale model test, 3688
- joint, speech, 1104
- kidney, mathematic model, ureter, ureter flow, analytical solutions, 571
- lung model, pneumotachography, validation, 63
- linear system, kruskal wallis model, non parametric model, 2019
- light absorption, roentgen radiation, spectrometry, magnetism, infrared absorption, analysis, 2662
- light, light absorption, refraction index, suspension, light reflection, colloid, spherical particle, 3013
- light, light absorption, dipole model, 3015
- lung ventilation, 3074
- learning, task performance, children, neo piagetian model, 3094
- learning, memory, finite and infinite memory range, 3585
- lung dead space, lung model, 3610
- molecular biology, protein, macromolecular and microsystemic levels, 21
- muscle contraction, muscle model, 79
- mechanoreceptor, nerve cell potential, trigeminus nerve nucleus, racoon rhinarium, 143
- mathematic model, nerve cell model, nerve potential, nerve cell network, cyclic inputs, 585
- membrane, nerve conduction, nerve fiber membrane, dipole model, rectification curve, squid, 945
- muscle, muscle spindle, feedback system, servocircuit, 2034
- muscle, muscle spindle, feedback system, 2035
- muscle, muscle contraction, muscle spindle, feedback system, 2036
- muscle contraction, muscle model, electrochemical model, 2051
- membrane potential, membrane excitability, 2072
- motivation, convulsion, motivation center control, 2098
- mortality, multivariate analysis, statistics, variance, meteorology, 2449
- muscle contraction, muscle tetanic contraction, sliding filament theory, feedback system, dynamic load 2475
- microorganism, viability, nocardia corallina, slide culture, 2714
- membrane, self assembly, 2850
- mathematic model, sodium pump, thermodynamics, 2872
- muscle, diffusion, fish, 3135
- muscle, myosin, molecular interaction, polyelectrolyte, 3240
- molecule, muscle, electrostatic charge, van der waals force, electrolyte system, cylindrical particle, 3575
- nerve fiber, dipole model, 84
- nerve cell potential, stochastic model, 147
- nerve conduction, nerve fiber membrane resistance, ranvier node, 580
- nerve cell network, stability, 581
- nerve cell model, retina, nerve cell network, differentiation in time and space, 787
- non linear system, sequential estimator, 1261
- nerve cell, new concept, 1325
- nerve cell model, nerve cell potential, renewal model, 1328
- nerve cell potential, nerve cell code, 2084
- nerve cell, nerve fiber, synapse, 2497
- nerve cell, general purpose electronic model, 2499
- neutron radiation, water, neutron scattering, nelkin model, 3037
- problems, 23
- perception, statistics, variance analysis, 54
- prosthesis, 76
- population growth, age dependent population growth, 514
- population, 1071
- phenylketonuria, 1073
- photoreceptor, scotopic vision, vision, 2 dimensional image receptor, 1293
- population growth, 3214
- paranoia, psychiatry, 3495
- public health service, telemetry, 3658
- retina image, vision, modulation transfer function, image processing, image distorsion, 109
- reticular formation, nerve cell network, poker chip model, theory, 133
- receptor, transducer, 139
- radiotracer, tracer, 426

- regression, statistics, misspecification, 2452
- regression, statistics, partial contingency, 3211
- receptor, receptor potential, 3620
- sweating, vascular plant, 83
- speech, vocal cord, two mass model, 558
- stochastic model, discrete time model, 2470
- semiconductor, bipolar transistor, 3203
- solution, van der waals force, isotropic rod, retarded interaction, 3598
- statistics, drug, kodlin standish model, 3693
- vision, modulation transfer function, 106
- vectorcardiography, electrocardiography, body shape correction, 126
- modulated light**, autocorrelation, electroretinography, retina ganglion cell potential, 808
 - generation, 2064
 - infrared radiation, thermography, radiometer, mechanical modulator, 1478
 - light modulator, sensometer, non selective modulation, 1443
 - light modulator, semiconductor, cdte crystal, 2668
 - monitoring, light transmission, multichannel system, 2377
 - visual system, distance meter, 2981
- modulation transfer function**, az 111, 1463
 - angiography, television camera, 3140
 - analog model, model, mtf measurement, 3231
 - active filter, electric filter, analysis, 3294
 - biology, swept frequency and correlation method, 521
 - camera, lens, photography, 30 objectives, 2573
 - collimator, gamma radiation, scintigraphy, scintillation camera, technetium 99m, 3344
 - digital computer, fluoroscopy, model, roentgen apparatus, roentgen screen, image processing, 833
 - electron microscopy, lens, electrostatic lens, 232
 - eye, retina, retina image, approximation, 1923
 - electron microscopy, image processing, defocusing, 2963
 - fiberscope, model, image processing, interferometrically fiber optics, 664
 - fiberscope, 926
 - fiberscope, holography, image processing, 2156
 - fiberscope, scattering loss, support structure, 3347
 - fluoroscopy, image intensifier, luminescence, neutron radiation, radiation, radiography, roentgen radiation, luminescing screen, 3760
 - image converter, image intensifier, 650
 - image processing, edge response, 667
 - image converter, 1294
 - image intensifier, radiography, roentgen radiation, dose reduction, 2590
 - image intensifier, roentgen radiation, television, 2791
 - image intensifier, roentgen radiation, television, vidicon, camera tube, plumbicon, 2796
 - information, model, vision, pattern recognition, structured image, unstructured image, 2894
 - model, vision, 106
 - model, retina image, vision, image processing, image distortion, 109
 - photomultiplier, transfer, signal noise ratio, biasing circuit, 3411
 - radiography, roentgen apparatus, roentgen radiation, image processing, theory, 949
 - roentgen apparatus, focal spot with a twin peaked intensity distribution, 3529
 - radiography, fine detail magnification, 3761
 - special graph paper, 2020
 - thermography, 297
 - television, roentgen picture, 433
 - vision, 716
 - visual system, image processing, theory, 3410
- modulator**, heart tape recorder, frequency modulation, pulse ratio modulation, 2543
 - telemetry, transmitter, electrocardiography, 1770
- moessbauer spectrometer**, information processing, spectrometry, statistics, thick absorber, 3675
 - rare earth metal, source, absorber, 3348
 - spectroscopy, backscatter spectroscopy, 1441
 - synchronization system, 2644
 - spectrometry, velocity sense determination, 3406
- molecular biology**, cell, model, statistics, 2460
 - calcium, electrostimulation, membrane, sodium, 3570
 - model, protein, macromolecular and microsystemic levels, 21
- molecular interaction**, model, muscle, myosin, polyelectrolyte, 3240
- molecular weight**, laser, light, calibration, 3401
- molecule**, centrifuge, elasticity, polyatomic molecule, centrifugal stretching, 3373
 - dipole theory, fluorescence, spectrometry, absorption spectroscopy, spectral shift, 2200
 - genetics, model, statistics, taxonomy, beta globin, dendrogram, network, 2841
 - model, muscle, electrostatic charge, van der waals force, electrolyte system, cylindrical particle, 3575
- molybdenum**, electron microscopy, microscopy, tungsten, cathode, flashing effect, 953
- monaural hearing**, hearing, distortion, 88
 - hearing, distortion, phase discrimination, f2 - f1, 2f1 - f2, 89
- monitoring**, air pollution, environmental health,

- contaminating oxydant measurement, continuous sampling, 329
- amniion, electrocardiography, fetus, heart rate, pressure, review, technic, 436
- artery tonus, blood pressure, 774
- aerosol, air pollution, environmental health, particle size, particle sizes, 1103
- artery prosthesis, artery pulse, collateral circulation, quantitative recorder, 1885
- air pollution, environmental health, ozone, monitor calibration, 2376
- artery pulse, respiration, 2379
- analog computer, electrocardiography, heart arrhythmia, heart fibrillation, anomalous beat detection, 3171
- angiography, computer, electrocardiography, heart catheterization, hewlett packard, 3188
- anesthesia, artificial ventilation, halothane, heart rate, feedback system, feed back monitoring, apparatus, 3530
- arterial oxygen tension, newborn, oxygen tension electrode, 48 newborn infants, continuous monitoring 3532
- analog computer, fluoroscopy, heart output, 3558
- body temperature, newborn, temperature control, 846
- blood pressure, breathing rate, digital computer, electrocardiography, heart arrhythmia, heart output, small computer, 1188
- brain, oxygen, oxygen electrode, 2194
- blood ph, blood pressure, digital computer, systolic blood pressure, 2421
- bladder pressure, neurogenic bladder, telemetry, volume transducer, management method, dog, monitoring bladder distension, 2753
- blood pressure, non invasive measurement method, electropneumatic converter, 3146
- behavior, psychiatry, recording, 3531
- behavior, computer, motor activity, open field behavior, 3791
- computer, environmental health, heart rate, skin temperature, tape recording, data logger, computer compatible output, 486
- contraception, pregnancy, temperature, thermometer, 691
- computer, digital computer, economy, electrocardiography, 1082
- computer, electrocardiography, heart arrhythmia, heart rate, mathematic model, clinical use, 1185
- coal mining, dust, industrial health service, mass monitor, 1890
- coronary care unit, digital computer, electrocardiography, 2416
- computer, electrocardiography, heart arrhythmia, heart ventricle, lidocaine, ouabain, phenytoin, mouse, 2801
- comparative testing, 3144
- cell culture, growth, hela cell, hydrocortisone, 3279
- digital computer, nursing, hospital management, 1955
- data processing, model, statistics, curve fitting, time dependent data, 2013
- digital computer, nursing, patient care, information processing, digital computer, data processing, 3175
- electrocardiography, heart arrhythmia, scattergram, 845
- echocardiography, echography, fetus, heart rate, doppler effect, 1524
- electroencephalography, telemetry, electrocardiography, telemetry regulations, multichannel telemetry, 1762
- electric accident, electrocardiography, interference reduction, safety, test program, safety, interference, 2378
- electric accident, hospital, 3145
- fetoplacental unit, fetus, labor, mathematic model, review, 2017
- fetus, heart rate, uterus, 2375
- hospital, 844
- hospital, 1153
- humidifier, hypothermia, temperature, 2294
- intensive care, telemetry, reliability, 1597
- intracranial pressure, strain gauge transducer, monitoring, 2314
- intracranial pressure, pressure transducer, semiconductor, strain gauge transducer, technical note, 2761
- intracranial pressure, pressure transducer, 3735
- laser, sensitive, 1039
- modulated light, light transmission, multichannel system, 2377
- muscle, muscle contraction, neuromuscular blocking, tension, mechanical factor, simple device, 3749
- nurse, random alarm system, 839
- phantom, resuscitation, electronic evaluation system, 365
- pneumography, rheology, lung function, design, 377
- signal processing, electrocardiography, 439
- telemetry, alarm monitoring, two terminal module, 2564
- monkey**, experimental animal, 3274
- monochromatic light**, chromatic adaptation, color vision, critical flicker fusion, light adaptation, vision, 3249
- monochromator**, camera, spectrometry, ultraviolet radiation, 2578
- diode, light detection, voltage controlled monochromator, 1216
- fluorescence, roentgen radiation, high intensity radiation, 1485
- interferometer, fabry perot, low absorption, 1829
- neutron radiation, resonance scatter, 8 ev-8 kev, 740
- neutron radiation, silicon crystal, 1841
- optic filter, construction, 108

- roentgen generator, roentgen radiation, 729
- monocular vision**, binocular vision, depth perception, vision, quantifying perspective effect, 3742
- morbidity**, computer, data processing, general practice, simplified data input, 2396
- morphogenesis**, biology, computer, 2387
 - biophysics, bone, electricity, face, skeleton, skull, 3209
- morphometrics**, computer, face, growth, radiography, skull, 1974
 - microscopy, soil, leitz quantimet 720, 1041
- mortality**, model, multivariate analysis, statistics, variance, meteorology, 2449
- mossbauer effect**, basement membrane, ear drum, hearing, vibration, amplitude, phase, monkey, 99
- mos semiconductor**, amplifier, computer memory, digital computer, driver, 607
- motility test**, anthropometry, body, skin, skinfold, boy, 12-19 years, skin fold measurement, 2032
- motion picture**, abdomen, angiography, radiodiagnosis, 1200 cases, siemens puck, 3515
 - biology, medicine, method, 1337
 - critical flicker fusion, eye movement, movement detection, apparent motion, 1113
 - fluorescence angiography, rapid access positive film, kodak, 1918
 - gauge, liquid, 270
 - holography, image processing, 3 dimensional hologram, 3356
 - image processing, reusable, erasable, properties, 2158
 - light, light absorption, 2964
 - scintigraphy, 3661
- motion sickness**, galvanic skin response, sweat, sweating, sweat sensor, 2366
 - hearing, loudness, reaction time, vision, visual illusion, auditory reaction time, 1117
- motivation**, brain cortex, electroencephalography, epilepsy, convulsion, 3108
 - electroencephalography, evoked cortical response, eye, photostimulation, task performance, age, 3102
 - model, convulsion, motivation center control, 2098
- motoneuron**, elbow, movement, spinal cord, tendon reflex, 1559
 - motor unit, movement, muscle tone, recruitment, man, 1724
 - mathematic model, nerve, voltage clamp, survey, 2490
- motor activity**, behavior, drug, analyzing device, mouse, 1899
 - behavior, electric field, food intake, growth, magnetic field, young chicken, 2642
 - behavior, computer, monitoring, open field behavior, 3791
 - circadian rhythm, eye, locomotion, photoreceptor, crayfish, 409
 - cineradiography, jumping, locomotion, primates, 2790
 - movement, long term recording, animal, 3736
- motor cortex**, anterior horn, extrapyramidal system, pyramidal tract, spinal cord potential, cat, 2308
 - conditioning, direct current, electrostimulation, temporal cortex, cat, 1908
 - electrostimulation, movement, man, 789
- motor skill**, task performance, 384
- motor unit**, electrode, electromyography, motor unit potential, quadrifilar electrode, 794
 - electromyography, frequency analysis, mathematic model, interference activity, 1321
 - motoneuron, movement, muscle tone, recruitment, man, 1724
- motor unit potential**, computer program, electromyography, frequency analysis, parameter analysis, 474
 - electrode, electromyography, motor unit, quadrifilar electrode, 794
 - electromyography, extraocular muscle, frequency analysis, 3263
 - mathematic model, muscle isometric contraction, 2916
- mouth**, osteotomy, retractor, 2381
 - radiology, tongue, retractor, inflatable retractor, 1592
- mouth mucosa**, citric acid, erythema, eugenol, phosphoric acid, methacrylic acid methyl acid, 1856
- mouthstick**, quadriplegia, 17 year old boy, 3133
- movement**, accelerometer, displacement transducer, vibration transducer, calibration, 600
 - artifact reduction, fet semiconductor, free moving animals, 1553
 - analog computer, computer model, gamma system, muscle spindle, 2431
 - analog computer, differentiation, 2594
 - artifact reduction, electrocardiography, electrode, electrode, drye, 3463
 - body posture, displacement, sleep, 1562
 - biomechanics, body movement, computer, electromyography, on line analysis, 3183
 - body posture, joint, model, 3589
 - breathing rate, electromagnetic field, eyelid, radiation hazard, restraining device, telemetry, small animals, 3648
 - conditioning, face, model, prosthesis, linear filter theory, cat, prosthesis, 3110
 - cerebellum, cuneate nucleus, joint, nerve cell potential, cuneocerebellar tract, 3129
 - deceleration, ship, 1281
 - electrostimulation, motor cortex, man, 789
 - elbow, motoneuron, spinal cord, tendon reflex, 1559
 - electromyography, model, muscle, muscle contraction, voluntary movement, 2866
 - hand, writing, recording, 1926
 - motoneuron, motor unit, muscle tone, recruitment, man, 1724
 - motor activity, long term recording, animal, 3736
 - radiography, roentgenology, anisotropic subtraction, edge enhancement, 1933
- movement detection**, amplifier, photosemiconductor, 1030
 - critical flicker fusion, eye movement, motion picture, apparent motion, 1113
 - electroretinography, retina, retina bipolar ganglion cell, lateral inhibition, frog, 1575
 - information theory, image processing, moving image, 562

- television, signal noise ratio, pattern recognition, man machine interaction, 1257
- movement perception**, light diffraction, retina image, image processing, image motion, 2065
- visual system, optic lobe, fundamental mechanism, insect, 2327
- mucosa**, fluorescence, microscopy, rectum, fluorescent microscope, 2959
- mueller phenomenon**, vision, pattern recognition, algorithm, 40
- multichannel analyzer**, digital computer, light, 958
 - data processing, radiotracer, 1593
 - information theory, signal detection, signal noise ratio, electric filter, 1658
 - radiation detection, 203
- multiphasic health testing**, computer, mass screening, 850
- multiple choice test**, computer, examination, medical education, physiology, 1950
- multiplier**, analog computer, height duration device, 240
 - analog computer, review, 677
 - analog computer, divider, ad530, 1369
 - analog computer, fet semiconductor, broad frequency range, 2163
 - analog computer, oscilloscope, philips, 2386
 - capacitance transducer, displacement transducer, tooth, tooth movement, linearization, 3628
 - frequency converter, telemetry, spurious signal, 3315
- multivariate analysis**, binomial distribution, model, statistics, susceptibility factor, 2447
 - computer program, data processing, information, statistics, non linear regression, 2455
 - contingency table, information, statistics, independence test, 2857
 - data processing, data reduction, digital computer, epidemiology, smoking, age, 1314 smokers, 176 non smokers, data reduction, age equivalence, 2969
 - model, mortality, statistics, variance, meteorology, 2449
 - statistics, 2450
- multivibrator**, 218
 - astable multivibrator, 2141
 - direct coupled multivibrator, 2554
 - interference suppression, signal noise ratio, electric interference, noise immunity, review, 2544
 - integrated circuit, pulse generator, variable duty cycle, 3641
 - light stability, digital programmable, 2144
 - latch, monostable multivibrator, astable multivibrator, retriggerable multivibrator, 2949
 - monostable multivibrator, 1370
 - pulse generator, double duty multivibrator, 200
 - schmitt trigger, high speed, 217
 - trigger mechanism, 981
 - telemetry, voltage controlled multivibrator, 3319
 - van der poll oscillator, combined frequency oscillator, 2553
- muscle**, antagonist muscle, h reflex, reciprocal innervation, spinal cord, voluntary movement, reciprocal inhibition, 1549
 - adenosine triphosphate, myosin, electron spin resonance spectrometry, rabbit, 2788
 - bone, cardiovascular system, connective tissue, biomaterial, biocompatibility, book, 1219
 - biomechanics, ergometry, sport, telemetry, rowing, 1764
 - computer, muscle fiber, image processing, 1420
 - computer model, muscle model, sliding filament theory, stimulation purposes, 2048
 - chloride, model, nuclear magnetic resonance, proton, sodium, water, toad, 2785
 - calcium, mathematic model, model, muscle isometric contraction, myosin, 2865
 - depth dose, dosimetry, neutron radiation, phantom, radiotherapy, tissue equivalent, 1145
 - electromyography, forearm, mathematic model, model, muscle model, 77
 - electromyography, model, movement, muscle contraction, voluntary movement, 2866
 - glycerol, muscle fiber, myosin, roentgen diffraction, rabbit, 3130
 - hydrodynamics, muscle contraction, mechanical properties measurement, 2871
 - impact, mathematic model, skeleton, system analysis, feedback system, line graph flow graph procedure, 2033
 - muscle spindle, system analysis, 78
 - muscle spindle, muscle tone, nerve potential, sensory nerve, frog, 917
 - magnetic field, muscle excitability, sartorius muscle, frog, 1129
 - model, muscle spindle, feedback system, servocircuit, 2034
 - model, muscle spindle, feedback system, 2035
 - model, muscle contraction, muscle spindle, feedback system, 2036
 - mathematic model, neuromuscular transmission, synapse transmission, crab, 2050
 - muscle spindle, muscle stretching, pulling system, 2360
 - muscle contraction, temperature, 2361
 - model, diffusion, fish, 3135
 - model, myosin, molecular interaction, polyelectrolyte, 3240
 - model, molecule, electrostatic charge, van der waals force, electrolyte system, cylindrical particle, 3575
 - monitoring, muscle contraction, neuromuscular blocking, tension, mechanical factor, simple device, 3749
 - poly(vinyl chloride), stainless steel, teflon, toxicity, biomaterial, rabbit muscle, histopathology, 3566
- muscle blood flow**, analog computer, blood flow, model, peripheral vascular resistance, calculation, 1976
 - artery obstruction, mathematic model, 2900
 - blood vessel muscle, peripheral vascular resistance, 123
 - exercise, model, muscle oxygen tension, oxygen consumption, 1278
- muscle contraction**, actomyosin, sliding filament theory,

- thread model, ultrastructure and contraction of isolated muscle actomyosin, 1670
- acetylcholine, muscle fiber, muscle spasm, sarcomere, slow muscle, ultrastructure, frog, 1673
- actomyosin, model, myosin, sliding filament theory, thread model, contraction mechanism, 1702
- calcium, endoplasmic reticulum, molecular mechanism, 2039
- decerebration, dorsal spinocerebellar tract, locomotion, nerve cell, 2766
- electromyography, model, movement, muscle, voluntary movement, 2866
- force transducer, neuromuscular blocking, neuromuscular transmission, measurement comparison, 2787
- glutaraldehyde, muscle fiber, roentgen diffraction, myosin filament, structural changes, 2784
- hydrodynamics, muscle, mechanical properties measurement, 2871
- model, muscle model, 79
- muscle strength, dynamometry, muscle isometric strength, isotonic contraction, 1579
- magnetic field, nerve, nerve stimulation, frog, 1817
- model, muscle, muscle spindle, feedback system, 2036
- model, muscle model, electrochemical model, 2051
- muscle, temperature, 2361
- model, muscle tetanic contraction, sliding filament theory, feedback system, dynamic load, 2475
- monitoring, muscle, neuromuscular blocking, tension, mechanical factor, simple device, 3749
- stimulating impulse, 2783
- superimposing, 3127
- theoretical approach, 3588
- muscle denervation**, deoxycorticosterone, estradiol, hyperpolarization, meractinomycin, muscle fiber membrane, muscle fiber membrane potential, protein synthesis, ribonuclease, rat, 3046
- muscle excitability**, magnetic field, muscle, sartorius muscle, frog, 1129
- muscle fiber**, actin, calcium, excitation contraction coupling, laser, tropomyosin, troponin, quasielastic scattering, 512
 - adenosine triphosphatase, glycerol, muscle relaxation, sarcomere, rabbit, 545
 - acetylcholine, muscle contraction, muscle spasm, sarcomere, slow muscle, ultrastructure, frog, 1673
 - computer, muscle, image processing, 1420
 - erythrocyte, hemolysis, sodium, nuclear magnetic resonance spectrometry, frog, 2259
 - elasticity, model, sarcolemma, semitendinous muscle, anisotropic elastic properties, frog, 2359
 - fast muscle, slow muscle, muscle fiber contractility, microscopy, different types, frog, 1928
 - fast muscle, potassium, slow muscle, sodium, frog, 2782
 - glutaraldehyde, muscle contraction, roentgen diffraction, myosin filament, structural changes, 2784
 - glycerol, muscle, myosin, roentgen diffraction, rabbit, 3130
 - temperature, viscosity, microscopy, frog, 1675
- muscle fiber contractility**, fast muscle, muscle fiber, slow muscle, microscopy, different types, frog, 1928
- muscle fiber membrane**, cell membrane permeability, chloride, muscle fiber membrane permeability, potassium, sodium, crab, 1651
 - cell membrane permeability, ontogeny, potassium, sodium, soleus muscle, age, rat, 1665
 - cell membrane, imidazole, phosphoric acid, potassium, sodium, ionogenic groups, 1853
 - deoxycorticosterone, estradiol, hyperpolarization, meractinomycin, muscle denervation, muscle fiber membrane potential, protein synthesis, ribonuclease, rat, 3046
- muscle fiber membrane permeability**, cell membrane permeability, chloride, muscle fiber membrane, potassium, sodium, crab, 1651
- muscle fiber membrane potential**, deoxycorticosterone, estradiol, hyperpolarization, meractinomycin, muscle denervation, muscle fiber membrane, protein synthesis, ribonuclease, rat, 3046
- muscle fiber potential**, adductor muscle, avoidance behavior, conditioning, temperature, locust, 1911
- muscle impedance**, impedance plethysmography, plethysmography, versatile and economic system, 2631
- muscle isometric contraction**, calcium, mathematic model, model, muscle, myosin, 2865
 - mathematic model, motor unit potential, 2916
- muscle isometric strength**, muscle contraction, muscle strength, dynamometry, isotonic contraction, 1579
- muscle model**, analog model, neuromuscular system, 59
 - computer model, muscle, sliding filament theory, stimulation purposes, 2048
 - electromyography, forearm, mathematic model, model, muscle, 77
 - model, muscle contraction, 79
 - model, muscle contraction, electrochemical model, 2051
- muscle oxygen tension**, exercise, model, muscle blood flow, oxygen consumption, 1278
- muscle performance**, extraocular muscle, model, rapid eye movement, saccadic eye movement, optimum muscular performance, 3121
- muscle relaxation**, adenosine triphosphatase, glycerol, muscle fiber, sarcomere, rabbit, 545
 - adenosine triphosphate, calcium, computer program, data processing, ethylene glycol bis(2 aminoethyl)tetraacetate, spectrometry, 1174
- muscle spasm**, acetylcholine, muscle contraction, muscle fiber, sarcomere, slow muscle, ultrastructure, frog, 1673
- muscle spindle**, analog computer, computer model, gamma system, movement, 2431
 - cell membrane permeability, electrolyte, electron, temperature, elovich equation, temperature dependence, 892
 - fusimotor muscle fiber, gamma system, model, muscle spindle afferent nerve, muscle spindle afferent nerve group ia, 1274
 - muscle, system analysis, 78
 - muscle, muscle tone, nerve potential, sensory nerve, frog, 917
 - model, muscle, feedback system, servocircuit, 2034
 - model, muscle, feedback system, 2035

- model, muscle, muscle contraction, feedback system, 2036
- muscle, muscle stretching, pulling system, 2360
- muscle stretching, excitability change, frog, 3115
- muscle spindle afferent nerve**, fusimotor muscle fiber, gamma system, model, muscle spindle, muscle spindle afferent nerve group ia, 1274
- muscle spindle afferent nerve group ia**, fusimotor muscle fiber, gamma system, model, muscle spindle, muscle spindle afferent nerve, 1274
- muscle spindle potential**, mathematic model, muscle stretching, dynamic and static stretch, firing pause, 1327
- muscle strength**, muscle contraction, dynamometry, muscle isometric strength, isotonic contraction, 1579
- muscle stretching**, mathematic model, muscle spindle potential, dynamic and static stretch, firing pause, 1327
 - muscle, muscle spindle, pulling system, 2360
 - muscle spindle, excitability change, frog, 3115
- muscle tetanic contraction**, model, muscle contraction, sliding filament theory, feedback system, dynamic load, 2475
- muscle tone**, eye movement, newborn, rem sleep, 396
 - electromyography, locomotion, stimulator, telemetry, free moving, rabbit, 1753
 - muscle, muscle spindle, nerve potential, sensory nerve, frog, 917
 - motoneuron, motor unit, movement, recruitment, man, 1724
- music**, hearing, pattern recognition, sound perception, 97
 - hearing, hearing threshold, rock and roll music, tts, recovery patterns, 402
 - hearing, mathematic model, 1122
 - hearing, speech, pitch discrimination, frequency transition, 2478
 - hearing, speech, pattern recognition, intelligibility, complex sound, 2887
 - hearing, sound, ear trauma, sound level measurement, rock and roll, 3747
 - periodic analysis, 2061
- myelin**, computer model, computer program, nerve, nerve conduction, 2076
 - roentgen diffraction, myelin membrane, structure, 1551
- myelin membrane**, myelin, roentgen diffraction, structure, 1551
- myoelectric control**, amplifier, arm prosthesis, electromyography, prosthesis, transducer, 1131
 - computer, data processing, prosthesis, orthosis, 3128
 - electromyography, prosthesis, biofeedback, 2358
 - electromyography, prosthesis, design of control system, 3134
 - hand, prosthesis, 2779
- myoglobin**, computer program, model, protein, display system, structure visualization, 1266
 - electron paramagnetic resonance, lysozyme, myosin, protein, enzyme, functional group distance, 1833
- myopia**, accommodation, recording in 76 eyes, 804
 - cornea contact lens, eye, lens, vision, eye glasses, 17,000 cases, progressive myopia, comparison, 1116
- myosin**, actomyosin, model, muscle contraction, sliding filament theory, thread model, contraction mechanism, 1702
 - adenosine triphosphate, muscle, electron spin resonance spectrometry, rabbit, 2788
 - calcium, mathematic model, model, muscle, muscle isometric contraction, 2865
 - electron paramagnetic resonance, lysozyme, myoglobin, protein, enzyme, functional group distance, 1833
 - glycerol, muscle, muscle fiber, roentgen diffraction, rabbit, 3130
 - heart muscle, sliding filament theory, heart muscle contraction, force velocity relation, 2044
 - model, muscle, molecular interaction, polyelectrolyte, 3240
- myosin filament**, glutaraldehyde, muscle contraction, muscle fiber, roentgen diffraction, structural changes 2784
- neck**, femur neck fracture, measurement device, 3766
- neck**, brain, head; isolation method, anatomy, dog, 2769
- needle**, beta detection, beta radiation, gamma detection, gamma radiation, solid state detector, 306
 - cataract, cataract extraction, intraocular pressure, 1946
 - microelectrode, tungsten, production, 705
 - suturing, uterine cervix incompetence, 378
- needle holder**, modified hegar, 441
- negative resistance**, active filter, generator, design, 609
 - active filter, generator, stability, 610
 - active filter, generator, 2142
 - analog computer, generator, stable negative resistance, 3318
 - generator, design, 1368
- neon**, flash lamp, high repetition rate, 295
- nerve**, computer model, computer program, myelin, nerve conduction, 2076
 - magnetic field, muscle contraction, nerve stimulation, frog, 1817
 - mathematic model, motoneuron, voltage clamp, survey, 2490
 - mathematic model, nerve fiber membrane resistance, nonmyelinated nerve fiber, electric interaction, 3260
 - microcinematography, nervous tissue, tissue culture, mobility, rabbit, 3724
 - stimulator, implantation, 204

nerve cell, aggression, brain, mathematic model, 588
 -analog computer, computer model, model, nerve cell, 2075

nerve cell, analog computer, computer model, model, nerve cell, 2075
 -alpha rhythm, computer model, electroencephalography, model, nerve cell potential, 2080

nerve cell, brain cortex slice, electrostimulation, metabolism, mitochondria, oxygen consumption, rat, mouse, 579
 -brain, creativity, learning, model, nerve cell model, creative process simulation, 1656
 -brain, deoxyribonucleic acid, ribonucleic acid, electron microscopy, intact cell preparation, newborn rat 3093
 -central nervous system, mathematic model, 947
 -cytoplasm, electrostimulation, glia cell, nerve fiber, ribonucleic acid, lysine h 3, tritium uridine, incorporation, tritonia, 1558
 -cerebellum, locomotion, nerve cell potential, fastigial nucleus, interpositus nucleus, cat, 2307
 -cell culture, microscopy, nerve cell potential, perfusion chamber, 2309

nerve cell, computer model, computer program, model, 2332

nerve cell, calcium, hodgkin huxley equation, nerve conduction, nerve fiber membrane, phosphatidylserine, potassium, serine, sodium, excitable membrane, 2498
 -calcium, magnesium, metabolism, potassium, ribonucleic acid, sodium, uridine h 3, mollusc, 2718
 -cerebellum, deafferentation, leg, locomotion, nerve cell potential, spinal cord, spinocerebellar tract, cat, 2757
 -computer model, mathematic model, nerve cell model, postsynaptic potential, synapse, input output relations, mollusc comparison, 2920
 -computer model, learning, self organizing system, 3265
 -cell, microelectrode, micromanipulator, compact acceleration device, 3494

nerve cell, digital computer, nerve cell model, mutually inhibiting neuron, 2489

nerve cell, decerebration, dorsal spinocerebellar tract, locomotion, muscle contraction, 2766
 -dendrite, model, nerve cell potential, postsynaptic potential, compartment model, 2918
 -dendrite, mathematic model, branch input resistance, 3621
 -digital computer, nervous system, insect, short preparation life, 3787
 -extracellular fluid, nerve cell membrane, potassium, sodium, snail, 933

nerve cell, excitable cell, mathematic model, locally homogeneous network, 2096

nerve cell, engram, memory, model, recall, 2911
 -excitation, ring type net, 2913
 -electrode, statistics, time delay, phase shift analysis, 2914
 -excitatory postsynaptic potential, inhibitory postsynaptic potential, learning, mathematic model, memory, model, nerve cell model, synapse, 3264

nerve cell, excitation, mathematic model, excitation spread, 3614

nerve cell, evoked response, model, nerve cell potential, 3619
 -mathematic model, nerve cell potential, synapse transmission, epileptic nerve cell, 1320
 -model, new concept, 1325
 -mathematic model, nerve cell network, impulse flow correlation, 1713
 -model, nerve fiber, synapse, 2497
 -model, general purpose electronic model, 2499
 -mathematic model, nerve cell code, retina ganglion cell, thalamus nucleus, visual system, coding distribution, cat, 2768
 -magnetic field, mathematic model, nerve cell activity generated magnetic field, 2921
 -microelectrode, tungsten, localization method, 3111
 -nerve cell membrane, nerve fiber, diffusion, anomalous reactance, 582
 -nerve cell code, synapse, spontaneous behavior, 2330
 -retina receptive field, superior colliculus, visual cortex, visual field, cat, 2310
 -tensorial linearization, 2442

nerve cell code, model, nerve cell potential, 2084

nerve cell code, mathematic model, nerve cell, retina ganglion cell, thalamus nucleus, visual system, coding distribution, cat, 2768
 -nerve cell, synapse, spontaneous behavior, 2330

nerve cell membrane, acetylcholine, atropine, 2853
 -cell membrane permeability, potassium, large square lattice cooperation, 2018
 -dendrite, nerve fiber, nerve fiber conduction, nerve cell membrane conductance, histology, electron microscopy, geometrical factor, mollusc, 1714
 -extracellular fluid, nerve cell, potassium, sodium, snail, 933
 -nerve cell, nerve fiber, diffusion, anomalous reactance, 582
 -nerve cell membrane resistance, nerve cell membrane conductance, mollusc, 1326

nerve cell membrane conductance, dendrite, nerve cell membrane, nerve fiber, nerve fiber conduction, histology, electron microscopy, geometrical factor, mollusc, 1714
 -nerve cell membrane, nerve cell membrane resistance, mollusc, 1326

nerve cell membrane potential, dentate gyrus, hippocampus, nerve cell potential, nerve conduction, compartment model, entorhinal cortex, computation, 3266
 -potassium, sodium pump, snail, 1716

nerve cell membrane resistance, nerve cell membrane, nerve cell membrane conductance, mollusc, 1326

nerve cell model, brain, model, integrator, nerve cell network, 793
 -brain, creativity, learning, model, nerve cell, creative process simulation, 1656
 -computer model, nerve cell network, 138
 -computer model, mathematic model, nerve cell, postsynaptic potential, synapse,

- input output relations, mollusc comparison, 2920
- digital computer, nerve cell, mutually inhibiting neuron, 2489
- excitatory postsynaptic potential, inhibitory postsynaptic potential, learning, mathematic model, memory, model, nerve cell, synapse, 3264
- mathematic model, model, nerve potential, nerve cell network, cyclic inputs, 585
- model, retina, nerve cell network, differentiation in time and space, 787
- model, nerve cell potential, renewal model, 1328
- mathematic model, rational number generator, 1719
- nerve cell potential, nerve cell network, clustered firing, 137
- postsynaptic potential, nerve cell network, fluctuation analyzer, 578
- partial epilepsy, seizure, nerve cell network, 939
- nerve cell network**, alpha rhythm, central nervous system, electroencephalography, epilepsy, excitation, inhibition, mathematic model, 940
 - brain, computer model, computer program, endocrine gland, mathematic model, model, non linear system, 30
 - brain, intelligence, memory, model, artificial intelligence, association, 574
 - brain, model, nerve cell model, integrator, 793
 - computer model, nerve cell model, 138
 - digital computer, nerve cell potential, visual system, animal, 876
 - information theory, mathematics, model, cofunction, 516
 - model, reticular formation, poker chip model, theory, 133
 - mathematic model, memory, synapse, 146
 - model, stability, 581
 - mathematic model, model, nerve cell model, nerve potential, cyclic inputs, 585
 - model, nerve cell model, retina, differentiation in time and space, 787
 - mathematic model, nerve cell, impulse flow correlation, 1713
 - nerve cell model, nerve cell potential, clustered firing, 137
 - nerve cell potential, analysis, 575
 - nerve cell model, postsynaptic potential, fluctuation analyzer, 578
 - nerve cell model, partial epilepsy, seizure, 939
 - nerve cell potential, sensory motor cortex, logic operation, cat, 942
- nerve cell potential**, auditory system, mathematic model, model, probability model, 1691
 - alpha rhythm, computer model, electroencephalography, model, nerve cell, 2080
 - brain steady potential, electroencephalography, electrooculography, electroretinography, glia cell, ph, sodium, 1708
 - brain cortex, electrocorticography, electroencephalography, mathematic model, synchronization analysis 1906
 - brain cortex, brain depth recording, microelectrode, method, intracellular recording, chronic animal, 2325
 - brain cortex, electroencephalography, oscillatory processes, rabbit, 2334
 - brain cortex, technique, 2759
 - computer model, stretch receptor, slow adapting receptors, crayfish, 1324
 - cell, hyperpolarization, electric mediated inhibition, goldfish, 2078
 - cerebellum, locomotion, nerve cell, fastigial nucleus, interpositus nucleus, cat, 2307
 - cell culture, microscopy, nerve cell, perfusion chamber, 2309
 - computer program, heart tape recorder, multi unit sorting, superposition potentials resolution, 2426
 - cerebellum, deafferentation, leg, locomotion, nerve cell, spinal cord, spinocerebellar tract, cat, 2757
 - computation of extracellular potential, 2908
 - cerebellum, cuneate nucleus, joint, movement, cuneocerebellar tract, 3129
 - computer program, frequency analysis, neurophysiology, heart tape recorder, intermediate tape storage 3190
 - digital computer, visual system, nerve cell network, animal, 876
 - dendrite, model, nerve cell, postsynaptic potential, compartment model, 2918
 - dentate gyrus, hippocampus, nerve cell membrane potential, nerve conduction, compartment model, entorhinal cortex, computation, 3266
 - dorsal spinocerebellar tract, spinocerebellar tract, walking, cat, 3737
 - entropy, lateral geniculate body, red nucleus, reticular formation, stochastic model, markov process, 152
 - electrode, compound powder electrode, 584
 - electroencephalography, spike, telemetry, transmitter, nervous system, implantation, frequency modulation, implantable transmitter, 1757
 - evoked response, model, nerve cell, 3619
 - gating circuit, pulse height analysis, nervous system, window pulse height discriminator, 785
 - hippocampus, visual stimulation, auditory stimulation, brain depth stimulation, brain programmed stimulation, cat, 3103
 - mechanoreceptor, model, trigeminus nerve nucleus, racoon rhinarium, 143
 - model, stochastic model, 147
 - microelectrode, nerve fiber potential, tungsten, 394
 - mathematic model, nerve cell, synapse transmission, epileptic nerve cell, 1320
 - model, nerve cell model, renewal model, 1328
 - model, nerve cell code, 2084
 - nerve cell model, nerve cell network, clustered firing, 137
 - nerve cell network, analysis, 575
 - nerve cell steady potential, simultaneous measurement, 2324

- rate meter, epochal ratemeter, 387
- sensory motor cortex, nerve cell network, logic operation, cat, 942
- spike, spike separation method, 2087
- stimulator, generator, visual stimulation, moving stimulus, 3509
- temporal organization objectifying, 1709
- nerve cell steady potential**, nerve cell potential, simultaneous measurement, 2324
- nerve conduction**, all or none law, excitation, nerve fiber membrane, strength duration curve, dipole model, quantum theory, 1315
 - computer model, computer program, myelin, nerve, 2076
 - calcium, hodgkin huxley equation, nerve cell, nerve fiber membrane, phosphatidylserine, potassium, serine, sodium, excitable membrane, 2498
 - dentate gyrus, hippocampus, nerve cell membrane potential, nerve cell potential, compartment model, entorhinal cortex, computation, 3266
 - electric field, infrared spectrometry, nerve fiber, 397
 - entropy, nerve fiber potential, 576
 - electrode, nerve fiber potential, close bipolar electrode, toad, 2073
 - infrared radiation, infrared spectrometry, nerve excitability, spectrometry, signal noise ratio, perkin elmer 521 modification, 3104
 - model, nerve fiber membrane resistance, ranvier node, 580
 - membrane, model, nerve fiber membrane, dipole model, rectification curve, squid, 945
 - nerve fiber membrane conductance, computer model, hodgkin huxley equation, nerve fiber membrane capacitance, nerve potential, properties, squid, 935
 - nerve fiber potential, integral calculation, toad, 1711
 - nerve fiber, nerve fiber potential, close bipolar electrode, frog, 2319
 - nerve fiber, nerve stimulation, ranvier node, saltatory conduction, lobster, 2764
- nerve excitability**, infrared radiation, infrared spectrometry, nerve conduction, spectrometry, signal noise ratio, perkin elmer 521 modification, 3104
- nerve fiber**, cytoplasm, electrostimulation, glia cell, nerve cell, ribonucleic acid, lysine h 3, tritium uridine incorporation, tritonia, 1558
 - cell membrane, cell membrane impedance, cell membrane potential, mathematic model, nerve fiber potential, dielectric constant, fixed charge, 2091
 - dendrite, nerve cell membrane, nerve fiber conduction, nerve cell membrane conductance, histology, electron microscopy, geometrical factor, mollusc, 1714
 - electric field, infrared spectrometry, nerve conduction, 397
 - heart muscle, heart muscle membrane, hodgkin huxley equation, voltage clamp, sucrose gap, early current analysis, 1279
 - model, dipole model, 84
 - model, nerve cell, synapse, 2497
 - nerve cell, nerve cell membrane, diffusion, anomalous reactance, 582
 - nerve conduction, nerve fiber potential, close bipolar electrode, frog, 2319
 - nerve conduction, nerve stimulation, ranvier node, saltatory conduction, lobster, 2764
 - sound stimulation, hair cell, cricket, 1919
- nerve fiber code**, data processing, information theory, receptor, nervous system, 944
- nerve fiber conduction**, dendrite, nerve cell membrane, nerve fiber, nerve cell membrane conductance, histology, electron microscopy, geometrical factor, mollusc, 1714
- nerve fiber membrane**, all or none law, excitation, nerve conduction, strength duration curve, dipole model, quantum theory, 1315
 - calcium, hodgkin huxley equation, nerve cell, nerve conduction, phosphatidylserine, potassium, serine, sodium, excitable membrane, 2498
 - membrane, model, nerve conduction, dipole model, rectification curve, squid, 945
 - nerve fiber membrane permeability, hodgkin huxley equation, hyperpolarization, potassium, 50
 - nerve fiber membrane permeability, hodgkin huxley equation, potassium, noise from open close kinetics, 518
 - nerve fiber membrane impedance, hodgkin huxley equation, mathematic model, potassium, diffusion, 2496
- nerve fiber membrane capacitance**, nerve fiber membrane conductance, computer model, hodgkin huxley equation, nerve conduction, nerve potential, properties, squid, 935
- nerve fiber membrane conductance**, computer model, hodgkin huxley equation, nerve conduction, nerve fiber membrane capacitance, nerve potential, properties, squid, 935
- nerve fiber membrane impedance**, hodgkin huxley equation, mathematic model, nerve fiber membrane, potassium, diffusion, 2496
- nerve fiber membrane permeability**, hodgkin huxley equation, hyperpolarization, nerve fiber membrane, potassium, 50
 - hodgkin huxley equation, nerve fiber membrane, potassium, noise from open close kinetics, 518
- nerve fiber membrane resistance**, model, nerve conduction, ranvier node, 580
 - mathematic model, nerve, nonmyelinated nerve fiber, electric interaction, 3260
- nerve fiber potential**, birefringence, dipole model, action potential origin, 2306
 - cable, electric field, electrocorticography, mathematic model, pyramidal nerve cell, polarization effect of ecog, 1723
 - cochlear nerve, nerve potential, cat, click stimuli, 1910
 - cell membrane, cell membrane impedance, cell membrane potential, mathematic model, nerve fiber, dielectric constant, fixed charge, 2091
 - electrostimulation, hodgkin huxley equation, potassium,

- increased modulation and linearity, constant current stimulus, 153
- entropy, nerve conduction, 576
- electrode, nerve conduction, close bipolar electrode, toad, 2073
- microelectrode, nerve cell potential, tungsten, 394
- nerve conduction, integral calculation, toad, 1711
- nerve conduction, nerve fiber, close bipolar electrode, frog, 2319
- nerve potential**, acoustic nerve, auditory masking, hearing, loudness, sound,
 - man, postmasking recovery, external meatus electrode, 2058
 - amplifier, signal noise ratio, human, 2093
 - cochlear nerve, nerve fiber potential, cat, click stimuli, 1910
 - cochlea, cochlea microphonic potential, cochlear nerve, latent period, hair cell, guinea pig, 1921
 - computer, spike, 3790
 - electrostimulation, latent period, median nerve, stimulation artifact, wrist, sensory nerve, 948
 - mathematic model, model, nerve cell model, nerve cell network, cyclic inputs, 585
 - muscle, muscle spindle, muscle tone, sensory nerve, frog, 917
 - nerve fiber membrane conductance, computer model, hodgkin huxley equation, nerve conduction,
 - nerve fiber membrane capacitance, properties, squid, 935
- nerve stimulation**, magnetic field, muscle contraction, nerve, frog, 1817
- nerve conduction, nerve fiber, ranvier node, saltatory conduction, lobster, 2764
- nervous system**, cerebellum, cerebellum cortex, model, spatial filter, 142
 - computer model, entropy, mathematic model, 2074
 - data processing, information theory, receptor, nerve fiber code, 944
 - digital computer, nerve cell, insect, short preparation life, 3787
 - electroencephalography, nerve cell potential, spike, telemetry, transmitter, implantation,
 - frequency modulation, implantable transmitter, 1757
 - gating circuit, nerve cell potential, pulse height analysis, window pulse height discriminator, 785
- nervous tissue**, microcinematography, nerve, tissue culture, mobility, rabbit, 3724
- neuraminidase**, erythrocyte membrane permeability, magnesium, methylene blue, phosphoric acid,
 - erythrocyte membrane potential, sulfate derivative, 3057
- neuroendocrinology**, cannula, hypophysis, hypothalamus, infusion, micropipette, neurophysiology, rat, 386
- neurogenic bladder**, bladder pressure, monitoring, telemetry, volume transducer,
 - management method, dog, monitoring bladder distension, 2753
 - bladder sphincter, valve, silastic spigot valve, 3084
- neurology**, computer program, data processing, hospital, psychiatry, algol, 449
- neuromuscular blocking**, displacement transducer, force transducer, 2354
 - force transducer, muscle contraction, neuromuscular transmission, measurement comparison, 2787
 - monitoring, muscle, muscle contraction, tension, mechanical factor, simple device, 3749
- neuromuscular system**, analog model, muscle model, 59
 - locomotion, testing device, 1128
- neuromuscular transmission**, force transducer, muscle contraction, neuromuscular blocking,
 - measurement comparison, 2787
 - mathematic model, muscle, synapse transmission, crab, 2050
- neurophysiology**, cannula, hypophysis, hypothalamus, infusion, micropipette, neuroendocrinology, rat, 386
 - computer, 2427
 - computer, 2428
 - computer program, frequency analysis, nerve cell potential, heart tape recorder,
 - intermediate tape storage, 3190
- neurosis**, cingulate gyrus, electrocoagulation, frontal cortex, case report, 2316
- neurosurgery**, drill, skull, hand drill, 2384
 - microscopy, operating microscope, improvements, 1601
- neurotransmitter**, body temperature, electrocardiography, electroencephalography, telemetry, implantation,
 - rat, 2562
- neurotransmitter**, blood flow, electroencephalography, electromagnetic flowmeter, flowmeter, stress,
 - telemetry, electrocardiography, implantation, animal, 3321
 - body temperature, electroencephalography, electromyography, oxygen tension, telemetry,
 - multichannel transmitter, 3322
 - blood pressure, body temperature, electrocardiography, heart disease, phonocardiography, respiration,
 - telemetry, multichannel system, 3330
 - blood flow, telemetry, 3644
- neurotransmitter**, miniature endplate potential, sodium, synapse membrane, synapse vesicle,
 - movement theory, 2493
- neurotransmitter**, telemetry, multichannel telemetry, animal, 3320
 - telemetry, electrocardiography, implantation, rat, implantable transmitter, 3325
- neutron detection**, helium, model, polyethylene, scintillation counting, delay, 2704
 - neutron radiation, thermocouple, 595
 - neutron generator, radiotherapy, threshold detector, 1143
 - neutron radiation, calibration, 1506
 - neutron radiation, scintillation counting, 14 mev, 3035
 - proportional counter, efficiency, 2707
 - scintillation counting, 1065
 - scintillator, ne 213, efficiency, 2229
- neutron generator**, neutron detection, radiotherapy, threshold detector, 1143
- neutron radiation**, 0.8-3 mev, 320

- badge dosimeter, dosimetry, thermoluminescence, thermoluminescence dosimeter, 1137
- brems radiation, radiation conversion, 1504
- counter, heavy particle radiation, helium 3, multiplicity counter, 712
- counter, spectrometry, total absorption counter, 2703
- dosimetry, scintillator, plastic scintillator, array, design, 1-450 mev, 319
- dosimetry, scintillator, plastic scintillator, calibration, 739
- dosimetry, gamma radiation, radiotherapy, thermoluminescence, ca so₄ tm, 834
- depth dose, dosimetry, muscle, phantom, radiotherapy, tissue equivalent, 1145
- dosimetry, 1507
- dosimetry, thermoluminescence, 6 lif, 7 lif, response, 3034
- fluoroscopy, image intensifier, luminescence, radiation, radiography, roentgen radiation, modulation transfer function, luminescing screen, 3760
- gamma radiation, short lived activity, 1837
- gamma radiation, radiography, roentgen radiation, biomedical application, 2694
- gamma radiation, low energy gamma radiation, neutron capture, 3270
- lead, graphite, 1503
- minimum diffusion length, 318
- monochromator, resonance scatter, 8 ev-8 kev, 740
- monochromator, silicon crystal, 1841
- model, water, neutron scattering, nelkin model, 3037
- neutron detection, thermocouple, 595
- neutron detection, calibration, 1506
- neutron detection, scintillation counting, 14 mev, 3035
- oxygen 16, boron 11, nitrogen 14, (n, α) reaction, 3271
- proton, spectrometry, scintillator, ne 102, ne 228, 2228
- roentgen radiation, seed, arabidopsis thaliana, 155
- radiation detection, germanium lithium detector, fast neutron flux, 1502
- radiography, scintillator, glass, plastic scintillator, metal foil, 1505
- subthermal neutron, thermal neutron, surface effect, 1840
- spectrometry, slow neutrons, 3038
- spectrometry, americum 241, 0.1-2.4 mev, 3431
- spectrometry, pulse discrimination, analysis, 3686
- transport equation, thermal neutron, 2706
- transport equation, cold neutrons, 3036
- neutron scattering**, model, neutron radiation, water, nelkin model, 3037
- newborn**, artificial ventilation, technique, instruments, 2746
 - arterial oxygen tension, monitoring, oxygen tension electrode, 48 newborn infants, continuous monitoring, 3532
 - body temperature, monitoring, temperature control, 846
 - blood sampling, maternal behavior, nursing, kittens, blood samples, 2261
 - body height, neonatometer, 2712
 - computer, computer program, diagnosis, exchange blood transfusion, 465
 - computer, heart right ventricle, vectorcardiography, 100 newborns, 2407
 - eye movement, muscle tone, rem sleep, 396
 - leukocyte, osmotic resistance, first 24 hours, 342
 - micturition, urine sampling, alarm monitoring, 437
 - oxygen tension, oxygen tension electrode, skin, vasodilatation, 2192
 - pneumotachygraphy, infant system improvement, 3714
- newborn hemolytic disease**, anti D, erythrocyte, 1078
- nickel cadmium battery**, battery, battery monitor, 2508
- night vision**, image intensifier, signal noise ratio, 718
- nitrogen**, accelerator, atmospheric radioactivity, cell nucleus, retina, vision, 1118
 - argon, brain blood flow, carbon dioxide, carbon dioxide tension, kidney blood flow, liver blood flow, mass spectrometry, oxygen, oxygen tension, skin blood flow, 1531
 - cooling, photomultiplier, 597
 - cooling, radiation, device, 1334
 - cryogenics, level control, detector, 1427
 - computer model, gas exchange, heart output, lung diffusion, lung model, lung ventilation, 3254
- nitrogen 14**, neutron radiation, oxygen 16, boron 11, (n, α) reaction, 3271
- nitrous oxide**, absorption, inspiration, oxygen, semiclosed circle circuits, 1939
 - air pollution, environmental health, laser, light absorption, 3016
 - anesthesia, oxygen, gas mixing, quantiflex monitored dial mixer, 3143
- nitroxide radical**, paramagnetic resonance, hemoglobin, methemoglobin, protein, paramagnetic centre distance, 2211
- noise**, auditory masking, hearing, combination tone, non linear system, combination bands, level, 1680
 - auditory masking, hearing, sound, combination tone, nonlinear system, combination, band level, 2055
 - auditory masking, electrocardiography, hearing, heart rate, heart sound, 100 hz stimulus, valve closure 3242
 - audiometry, 3499
 - digital computer, digital measurement, noise power, 593
 - deafness, hearing, personality, review, 814
 - deafness, industrial health service, occupational deafness, vestibular system, vibration, 815
 - evoked cortical response, hearing, hemisphere, hemispheric dominance, evoked acoustic nerve response

- verbal input, non verbal input, 1109
- environmental health, hearing, laser, sound, environmental noise, 3437
- hearing, hearing threshold, vibration, 401
- hearing, industrial health service, task performance, noisy environment, 816
- hydrophone, calibration, 1642
- hearing, vibration, diesel engine, 3112
- industrial health service, model, noise control, scale model test, 3688
- mathematic model, visual system, insect, 2090
- powered prosthesis, acoustic standard, 2778
- sound level measurement, level characterisation, 1066
- signal noise ratio, intelligibility, constant s/n ratio, 1383
- sea pollution, hydrophone, calibration, 1641
- noise generator**, different distributions, 211
- noise reduction**, acoustics, sound transmission, sound absorption, 2059
- nomenclature**, autopsy, biopsy, data processing, diagnosis, digital computer, pathology, country wide network, dutch palga project, 1196
- autopsy, biopsy, data processing, digital computer, epidemiology, pathology, retrieval, 1197
- autopsy, biopsy, computer, data processing, histology, pathology, gepact system, country wide network, 1198
- nonlinear system**, auditory masking, hearing, signal processing, combination tone, 1286
- non linear system**, auditory masking, hearing, noise, combination tone, combination bands, level, 1680
- auditory masking, hearing, combination tone, even order combination band, 1681
- nonlinear system**, aorta, aorta flow, artery, artery flow, blood pressure, iliac artery, mathematic model, 1706
- non linear system**, amplifier, pulse height analysis, dynamic gain change vs nonlinearity, 1835
- nonlinear system**, auditory masking, hearing, noise, sound, combination tone, combination, band level, 2055
- active filter, stability, 2521
- air flow, balloon, blood flow, bubble, capillary, lung alveolus, mathematic model, membrane, respiration switch, 3612
- aerosol, sound, hormone generation, 3691
- non linear system**, brain, computer model, computer program, endocrine gland, mathematic model, model nerve cell network, 30
- blood glucose, feedback system, adaptive control, man, 1080
- nonlinear system**, colorimetry, color vision, visual discrimination, color discrimination, chromaticity diagram, 3253
- conductivity, model, semiconductor, tissue, theory, 3618
- detection, 3230
- non linear system**, evaluation, z transform, 1663
- nonlinear system**, ecology, cross correlation, volterra kernel, 1998
- feedback system, stability, criterion, 2022
- non linear system**, hearing, signal processing, combination tone, psychophysics, cubic difference tone, 1287
- linear system, detector, collapsing loss, 163
- nonlinear system**, light frequency signal, 2465
- non linear system**, model, sequential estimator, 1261
- nonlinear system**, numerical solution, 2458
- non linear system**, temperature, electrothermal effect, 1804
- nonmyelinated nerve fiber**, mathematic model, nerve, nerve fiber membrane resistance, electric interaction, 3260
- noradrenalin**, acetylcholine, calcium, fetus, heart muscle contractile force, temperature, heart muscle contraction, measuring method, organ culture, mouse, 2731
- artery, artery wall, elasticity, model, smooth muscle, viscosity, 3594
- blood vessel, smooth muscle, in vitro recording method, 2267
- endplate potential, mathematic model, miniature endplate potential, 2083
- notch filter**, active filter, wien bridge, 176
- active filter, double t filter, twin t, application, 606
- active filter, power line interference, 1349
- active filter, all pass filter, 1352
- band pass filter, selective amplifier, 2935
- selectivity limitation, 612
- nuclear data**, 308
- 2 = 1 - 99, 3267
- a=92, 123, 196, 157
- a=127, 1332
- a=129, 1333
- a=212, 1728
- cosmic radiation, scintillator, z=12 to 28, 3432
- ground state q values, 2=4-98, 2099
- z=70, z=95, 3426
- nuclear energy**, assisted circulation, plutonium 238, 1532
- nuclear instrumentation**, dosimetry, environmental health, lithium fluoride dosimeter, thermoluminescence nuclear radiation, caso4:dy, 1496

- radiation detection, nuclear radiation, historical review, 1440
- nuclear magnetic resonance**, amplifier, lock in amplifier, varian ha 100, 1483
 - blood flowmeter, pulsatile flow, system analysis, 932
 - cw measurement, 2687
 - chloride, model, muscle, proton, sodium, water, toad, 2785
 - gelatin, model, proton, agarose, 2101
 - gating, double resonance, 3417
 - integrator, 1055
 - microwave radiation, spectrometry, nuclear magnetic resonance spectrometry, endor spectrometer, 1834
 - magnet, tunnel diode, generator, 2690
 - nmr spinning tube, 2684
 - pulse generator, current pulse generator, self diffusion measurement, 1051
 - pulse generator, digital pulse generator, programmable generator, 2683
 - pulse generator, digital generator, 3023
 - spectrometry, nuclear magnetic resonance spectrometry, modification, 749
 - spectrometry, multiple pulse, 1053
 - thermodynamics, varian ha 100, modification, adiabatic fast passage, 2681
 - wahuhu method, 2691
- nuclear magnetic resonance spectrometry**, collagen, relaxation, tendon, proton magnetic resonance, cattle 3597
 - erythrocyte, hemolysis, muscle fiber, sodium, frog, 2259
 - microwave radiation, nuclear magnetic resonance, spectrometry, endor spectrometer, 1834
 - nuclear magnetic resonance, spectrometry, modification, 749
- nuclear medicine**, computer, diagnosis, scintiscanning, 1161
 - computer, radiology, 3154
 - computer, computer program, radioisotope, 3542
 - oxygen 15, probability, radioisotope, statistics, strontium 85, likelihood, mean square error, 2797
 - radiobiology, restraining device, 3756
- nuclear radiation**, amplifier, pulse height analysis, linear amplifier, 1037
 - alpha radiation, radiation, gamma radiation, radiation detection, semiconductor detector, ge si alloy, 2218
 - atmosphere, environmental health, fallout, model, radiation hazard, rain, poland, 2222
 - amplifier, pulse amplifier, 2524
 - computer, data processing, spectrometry, on line, 280
 - counter, sampler, asynchronous sampler, 1747
 - computer, data processing, digital computer, on line computer, scintillation counting, pdp 15, ibm 360/65, two computer system, 2166
 - computer program, iodine 131, phosphorus 32, statistics, chi square test, 2923
 - cryostate, semiconductor detector, ge(hi), 2998
 - counting loss reduction, memory, 2999
 - dosimetry, environmental health, lithium fluoride dosimeter, thermoluminescence, nuclear instrumentation, caso4:dy, 1496
 - data processing, 2995
 - data processing, fourier transform, exponential, 2996
 - high energy radiation, radiation detection, powder counter, 710
 - ionization chamber, output variation, 1814
 - ionization chamber, pulsed radiation, nbs p2 standard, 1816
 - linear accelerator, pulse generator, radiation, radiotherapy, trip out circuit, 1035
 - pulse generator, delay generator, 638
 - proportional counter, xenon 133, gas amplification, 1442
 - pulse generator, spectrometry, 1811
 - pulse height analysis, spectrometry, 2149
 - power supply, pulse generator, spark chamber, 2550
 - radiation detection, nuclear instrumentation, historical review, 1440
 - radiation detection, transfer, steep gradient, 2922
 - spectrometry, flexible, 605
 - semiconductor detector, charged particle detector, 1439
 - scintillation counting, large scintillation counter, improved resolution, 1838
 - scintillator, csi(na), decay constant, 2997
 - thermoluminescence, glow curve, differential equation, numerical solution, 1812
 - time amplitude converter, error, 2139
- nucleotide**, cell, plasmalemma, protein, ribonuclease, yeast, cooperative conformational membrane rearrangement, yeast, 2462
- nurse**, monitoring, random alarm system, 839
- nursing**, blood sampling, maternal behavior, newborn, kittens, blood samples, 2261
 - digital computer, monitoring, hospital management, 1955
 - digital computer, monitoring, patient care, information processing, digital computer, data processing, 3175
- nutrient**, ecology, model, nutrient conserving, man, 2179
- nutritional habit**, protein, soybean, 2252
- nutritional value**, diet, linear programming technique, human, rat, 2253
- nylon**, aluminum, blood, copper, hemolysis, stainless steel, teflon, polystyrene, implantation, 3698
 - kidney perfusion, kidney preservation, oleate, plastic, poly(vinyl chloride), silastic, tube, organ perfusion

- observation**, statistics, censored observation, 2839
- obstetrics**, breast, echography, ophthalmology, ultrasonics, improvement, 840
 - computer, data processing, review, 1200
- occupational deafness**, deafness, industrial health service, noise, vestibular system, vibration, 815
 - deafness, hearing, industrial health service, 1913
- occupational health**, color vision, man machine interaction, red, green, 2351
- occupational medicine**, abdomen, fluoroscopy, radiation protection, radiology, roentgen radiation, thorax, 1147
 - blood pressure, electrocardiography, metallurgy, rheology, telemetry, 1769
- oculomotor system**, eye movement, saccadic eye movement, linear system, linear system studies, 544
- odor**, olfactometry, smelling, 1 butanol, threshold, man, olfactometer, 2346
- ohmmeter**, analog digital converter, voltmeter, triphasic converter, 1375
- oleate**, kidney perfusion, kidney preservation, nylon, plastic, poly(vinyl chloride), silastic, tube, organ perfusion, tube choice, rabbit kidney, 3091
- olfactometry**, odor, smelling, 1 butanol, threshold, man, olfactometer, 2346
- olfactory bulb**, amygdaloid nucleus, electroencephalography, spike, telemetry, rabbit, 1765
- on line computer**, amplifier, data processing, digital computer, programmable amplifier, 1784
 - cell membrane potential, digital computer, spike, pattern recognition, extracellular recording, 134
 - computer, data processing, digital computer, scintillation counting, nuclear radiation, pdp 15, ibm 360/65, two computer system, 2166
 - digital computer, digital filtering, initial value method, 1236
 - digital computer, signal noise ratio, analog vs digital multiplexer, 1412
 - digital computer, process control, 1413
 - digital computer, time measurement, time interval, folded ramp technique, wide range, 2182
 - process control, time delay, feedback system, 3365
- ontogeny**, cell membrane permeability, muscle fiber membrane, potassium, sodium, soleus muscle, age, rat, 1665
- open field behavior**, behavior, computer, monitoring, motor activity, 3791
- open heart surgery**, cardiogenic shock, angiocardiology, extracorporeal circulation, heart infarction, ischemic heart disease, oxygenation, aorta balloon pump, aortocoronary bypass graft, 4 patients, 3702
- operating microscope**, microscopy, neurosurgery, improvements, 1601
 - sterile cover fixation plate, 1158
- operational amplifier**, amplifier, feedback system, feed back uncoupling, 1351
 - active filter, low pass filter, selective amplifier, philips tca 220, design, 3283
 - active filter, 3285
 - comparator, hysteresis, variable trip point, 3292
 - design, 615
 - differential amplifier, direct current amplifier, specification terminology, 620
 - electrode, electrolyte, 182
 - error budget, selective, 1217
 - fet semiconductor, monolithic op amp, 1221
 - fet semiconductor, chopper stabilisation, 2114
 - fet semiconductor, high slew rate, 2527
 - gain control, 177
 - integrated circuit, lock in amplifier, digital system, 1741
 - logarithmic amplifier, intersil 8007, 2436
 - offset current, 3633
 - power amplifier, output stage μ a 741, 622
 - principles, 962
 - power amplifier, electric motor, 3623
 - rectifier, alternating current voltmeter, 967
 - signal noise ratio, measurement, 2932
 - slow rate limiting, 2933
 - thermistor, thermometer, review, 3382
 - wide range, 3634
- operation chair**, dentistry, siemens t 3, 3446
- ophthalmodynamometry**, cornea, 1571
- ophthalmology**, breast, echography, obstetrics, ultrasonics, improvement, 840
 - electric accident, 3497
 - holography, 2204
 - microsurgery, head rest, 443
- ophthalmoscopy**, refraction, refractometry, 2350
- optical scanning**, paper tape, paper tape reader, low reading error, 243
- optic cement**, lens, visual system, moisture resistant cement, 1820
- optic density**, photometry, virus, continuous recording of optic density, automatic recording, 2187
- optic disk**, laser, radiation hazard, retina, spot diameter estimation, rhesus monkey, 1574
- optic filter**, band pass filter, ultraviolet radiation, alkali alloy, 1046
 - camera, color photography, spatial frequency filter, 2155
 - data processing, image processing, grating, 2454

- eye, industrial medicine, laser, radiation hazard, radiation protection, filter optimization, 3009
- electric phase shift, 3020
- fluorescence, photometry, spectrometry, light reflection, reflection measurement, 3402
- inverse spatial filter, synthesis, 1470
- monochromator, construction, 108
- vision, visual acuity, 2897
- wide band filter, multilayer filter, 2658
- optic lobe**, movement perception, visual system, fundamental mechanism, insect, 2327
- optic nerve**, optic nerve section, method, 3491
- optic nerve section**, optic nerve, method, 3491
- optics**, dark adaptation, light adaptation, rhabdomere, cockroach, 1697
- orbit**, echography, ultrasonics, isodensitometric curve, 403
 - periosteum, surgery, retractor, elevator, periosteal elevator, 1947
- organ perfusion**, hyperbarism, hypothermia, liver perfusion, ph, automatic ph adjustment, 1861
 - kidney perfusion, kidney preservation, nylon, oleate, plastic, poly(vinyl chloride), silastic, tube, tube choice, rabbit kidney, 3091
- orientation**, adequate stimuli action, 1576
- orienting reflex**, heart rate, instrumental conditioning,
 - ekg recording, direct reading scale, beat by beat recording, 1876
- orthesis**, computer, data processing, myoelectric control, prosthesis, 3128
- orthodontic**, computer, data processing, dentistry, 3557
- orthodontics**, cephalometry, computer, computer program, dentistry, digital computer,
 - review, computer use, 1199
- orthopedics**, biomechanics, plaster, walking, bandage, mechanical properties, 2870
- orthosis**, arm, 2356
 - arm, eye movement, transducer, control system, 3131
- oscillation**, allosteric enzyme, glycolysis, phosphofructokinase, enzyme, chemical kinetics,
 - glycolytic oscillation, 888
- body, measurement, 332
- body posture, stabilogram characteristics, 2786
- cell membrane, skin, compartment model, feedback system,
 - multi compartment model, unidirectional transport, 909
- circadian rhythm, zeitgeber, self sustained oscillation, synchronization, 2000
- metabolism, compartment model, feedback system, transport equation, multi compartment model, 908
- oscilloscope**, 4 channel converter, 188
 - artifact reduction, trigger mechanism, 969
 - analog computer, multiplier, philips, 2386
 - averaging, digital computer, frequency analysis, combination instrument, 3539
 - action potential, cathode ray oscilloscope, differential amplifier, 3673
 - cathode ray oscilloscope, film camera, 1396
 - cathode ray oscilloscope, digital computer, storage oscilloscope, tektronix, 1788
 - cosmic radiation, television camera, instrumentation recorder, 2702
 - electronic counter, logic circuit, 3300
 - high pass filter, low pass filter, 3 db point, 3289
 - pattern recognition, parameter selection, 627
 - random sampling, 628
- osmometer**, osmotic pressure, sensitive and accurate meter, 2980
 - plasma, serum colloid osmotic pressure, colloid osmotic pressure, improvement, 346
- osmotic pressure**, action potential, data processing, data fitting, curve fitting, virial expansion, 538
 - alcohol, bladder wall permeability, water, 1898
 - membrane permeability, compartment model, 2838
 - osmometer, sensitive and accurate meter, 2980
- osmotic resistance**, leukocyte, newborn, first 24 hours, 342
- osteomalacia**, biopsy, bone, diagnosis, digital computer, hyperparathyroidism, bone disease, osteoporosis,
 - quantitative histology, 3164
- osteopathy**, biochemistry, computer, diagnosis, metabolic disorder, 469
- osteoporosis**, bone, mathematic model, geometric feedback, effect on development,
 - effect of treatment on both types of bone, 915
 - biopsy, bone, diagnosis, digital computer, hyperparathyroidism, osteomalacia, bone disease, quantitative histology, 3164
- osteosynthesis**, fracture, 1126
- osteotomy**, mouth, retractor, 2381
 - saw, stethoscope, gigli saw guide, 1943
- ouabain**, computer, electrocardiography, heart arrhythmia, heart ventricle, lidocaine, monitoring,
 - phenytoin, mouse, 2801
- ovary carcinoma**, culdocentesis, 1942
- ovulation**, infrared photography, laparoscopy, monkey, infrared photolaparography, 1476
- oxidation**, cytochrome, enzyme kinetics, model, protein, semiconductor, solid protein, theory, 891
- oxidative phosphorylation**, kidney, liver, magnetic field, mitochondria, ultrasonics, rat, 2637
 - membrane potential, phospholipid membrane, membrane distance, 2495
- oximetry**, blood oxygen, oxygen saturation, reflectometry, skin, 114
 - diode, skin, 276
- oxygen**, argon, brain blood flow, carbon dioxide, carbon dioxide tension, kidney blood flow,

- liver blood flow, mass spectrometry, nitrogen, oxygen tension, skin blood flow, 1531
- absorption, inspiration, nitrous oxide, semiclosed circle circuits, 1939
- anesthesia, nitrous oxide, gas mixing, quantiflex monitored dial mixer, 3143
- brain, monitoring, oxygen electrode, 2194
- bohr shift, carbon dioxide, gas exchange, lung capillary, haldane effect, 3478
- corti organ, microelectrode, ph electrode, tunnel of corti, guinea pig, 929
- carbon, pion radiation, radiobiology, radiotherapy, water, radiation absorption, pi meson, capture site, 950
- erythrocyte, oxygen tension, active vent, 3047
- fuel cell, test, reliability, 1810
- oxygenation**, arterial carbon dioxide tension, arterial oxygen tension, arterial ph, extracorporeal circulation, plastic membrane, thrombocyte count, coronary artery bypass graft, 3m² lande edwards disposable oxygenator, 1877
- artificial ventilation, blood flow, erythrocyte, gas embolism, respiration, rheology, sound, gas bubble, 3602
- cardiogenic shock, angiocardiography, extracorporeal circulation, heart infarction, ischemic heart disease, open heart surgery, aorta balloon pump, aortocoronary bypass graft, 4 patients, 3702
- hemoglobin, mathematic model, ph, structure activity relation, 2,3 diphosphoglyceric acid, 2257
- oxygen breathing**, oxygen mask, cattle, device, 2298
- oxygen consumption**, brain cortex slice, electrostimulation, metabolism, mitochondria, nerve cell, rat, mouse, 579
- breathing, mask, dog, 2373
- body surface, metabolism, jena stereometric camera, smk 5.5/0808, 3694
- chamber, design, small animal, 1074
- calorimetry, metabolism, automatic compensating gradient lags, 1852
- coronary artery flow, coronary artery obstruction, coronary vascular resistance, heart muscle, standardized functional stenosis induction method, dog, 1878
- carbon dioxide tension, heart infarction, heart muscle, oxygen tension, heart muscle blood flow, recording device in focal areas, dog, 3070
- exercise, model, muscle blood flow, muscle oxygen tension, 1278
- exercise, respiration, telemetry, 1760
- ergometry, football, sport, telemetry, work, 3647
- gas volume, simplified method, 1851
- heart infarction, heart muscle, mathematic model, metabolism, heterogeneous permeability, 753
- ionized air, liver, liver slice, metabolism, rat, 2247
- lung alveolus, lung blood flow, lung diffusion, fluctuation, 375
- lung ventilation, telemetry, training, transmitter, multichannel system, 1771
- open circuit measurement method, 752
- oxygen electrode**, brain, monitoring, oxygen, 2194
- catheter, oxygen tension, oxygen tension electrode, method, catheter mounted oxygen electrode, 2196
- heart muscle, heart surgery, heart left ventricle, oxygen tension, heart right ventricle, human, 2195
- oxygen mask**, oxygen breathing, cattle, device, 2298
- oxygen saturation**, blood oxygen, oximetry, reflectometry, skin, 114
- blood pressure, fibroscope, heart infarction, heart output, heart rhythm, 765
- oxygen tension**, argon, brain blood flow, carbon dioxide, carbon dioxide tension, kidney blood flow, liver blood flow, mass spectrometry, nitrogen, oxygen, skin blood flow, 1531
- arterial carbon dioxide tension, arterial oxygen tension, brain, capillary, carbon dioxide tension, tissue 2635
- acid base balance, blood gas, blood ph, carbon dioxide tension, ph, correct measurement, 2636
- blood gas, carbon dioxide tension, gas analysis, ph, review, 2634
- blood oxygen dissociation curve, computer, data reduction, oxyhemoglobin, 2809
- body temperature, electroencephalography, electromyography, telemetry, neurotransmitter, multichannel transmitter, 3322
- catheter, oxygen electrode, oxygen tension electrode, method, catheter mounted oxygen electrode, 2196
- carbon dioxide tension, heart infarction, heart muscle, oxygen consumption, heart muscle blood flow, recording device in focal areas, dog, 3070
- exercise, respiration, telemetry, 1759
- erythrocyte, oxygen, active vent, 3047
- fluorescence, heart perfusion, protein, pyridine, time sharing readout, frog, 355
- gingiva, oxygen tension electrode, measurement, 2993
- heart muscle, heart surgery, heart left ventricle, oxygen electrode, heart right ventricle, human, 2195
- newborn, oxygen tension electrode, skin, vasodilatation, 2192
- oxygen tension electrode**, arterial oxygen tension, monitoring, newborn, 48 newborn infants, continuous monitoring, 3532
- clark electrode, precision, accuracy, 2193
- catheter, oxygen electrode, oxygen tension, method, catheter mounted oxygen electrode, 2196
- gingiva, oxygen tension, measurement, 2993
- newborn, oxygen tension, skin, vasodilatation, 2192
- oxygen transport model**, arterial oxygen tension, lung alveolus oxygen tension, lung diffusion, alveolar arterial oxygen gradient analysis, 1299
- cell, model, new model, 1300
- oxygen 15**, nuclear medicine, probability, radioisotope, statistics, strontium 85,

likelihood, mean square error, 2797

oxygen 16, mass spectrometry, oxygen 18, radioisotope, integrator, isotope ratio, 2620

- neutron radiation, boron 11, nitrogen 14, (n, α) reaction, 3271

oxygen 18, mass spectrometry, radioisotope, integrator, oxygen 16, isotope ratio, 2620

oxyhemoglobin, blood gas, blood oxygen, blood ph, computer program, electrode, 2066

- blood oxygen dissociation curve, computer, data reduction, oxygen tension, 2809
- carbon dioxide tension, hemoglobin, blood oxygen dissociation curve, ph, continuous recording, 2633

ozone, air pollution, environmental health, monitoring, monitor calibration, 2376

pain, burn, electrode resistance, resistance measurement, patient discomfort, 3105

- skin, thermal stimulation, sensitivity changes, 1313

paint, light reflection, 3004

painting, carbon, heater, graphite, colloidal graphite, 2627

palate, electromyography, speech, tongue, method, electropalatography, 2291

palladium, electrode, electroencephalography, gold, iridium, platinum, metal, rhodium, comparison, 392

pancreas, bone, computer, lung, scintigraphy, scintillation camera, 1201

- cholecystokinin, computer, diagnosis, pancreas carcinoma, pancreas disease, pancreatitis, pancreatico-
secretin, 84 patients, 29 normals, 2398

pancreas carcinoma, cholecystokinin, computer, diagnosis, pancreas, pancreas disease, pancreatitis, pancreatico-
secretin, 84 patients, 29 normals, 2398

pancreas disease, cholecystokinin, computer, diagnosis, pancreas, pancreas carcinoma, pancreatitis, pancreatico-
secretin, 84 patients, 29 normals, 2398

pancreatitis, cholecystokinin, computer, diagnosis, pancreas, pancreas carcinoma, pancreas disease, pancreatico-
secretin, 84 patients, 29 normals, 2398

pancreozymin, cholecystokinin, computer, diagnosis, pancreas, pancreas carcinoma, pancreas disease, pancreatitis, secretin, 84 patients, 29 normals, 2398

panting, airway pressure, airway resistance, body plethysmography, breathing mechanics, lung compliance
mathematic model, airway flow, 65

papaverine, acetylcholine, adrenalin, blood pressure, brain blood flow, medulla oblongata, propranolol, measurements, 1869

paper tape, computer, digital computer, scintigraphy, scintillation camera, picker 500, 1150

- optical scanning, paper tape reader, low reading error, 243

paper tape reader, paper tape, optical scanning, low reading error, 243

paracentesis, gun, device, rabbit, 3536

paramagnetic resonance, gas, gas phase cavity, 2688

paramagnetic resonance, hemoglobin, methemoglobin, protein, nitroxide radical, paramagnetic centre distance, 2211

paramedical personnel, attitude, computer, physician, 1162

paranoia, model, psychiatry, 3495

parenteral feeding, catheter, cava vein, intravenous feeding, method and technique, minipig, 2251

- catheter, silastic, technique, indications, 3448

parkinsonism, brain depth recording, computer program, thalamus, stereotaxic surgery, brain depth stimulation, probe location, pdp 12, 1631

partial epilepsy, nerve cell model, seizure, nerve cell network, 939

particle counter, coulter counter, pulse shape analysis, 1009

- coincidence counting, counter, error correction, 1514
- environmental health, filtration, filtration plant, 1515
- microscopy, television, 1393

particle size, aerosol, air pollution, environmental health, monitoring, particle sizes, 1103

- erythrocyte, spheroid joint, electrical sizing, 1076

particle sizing, aerosol, holography, laser, 700

pathology, autopsy, biopsy, data processing, diagnosis, digital computer, nomenclature, country wide network, dutch palga project, 1196

- autopsy, biopsy, data processing, digital computer, epidemiology, nomenclature, retrieval, 1197
- autopsy, biopsy, computer, data processing, histology, nomenclature, gepact system, country wide network, 1198
- biopsy, computer program, data processing, digital computer, display system, 8000 cases, 3155
- computer, computer program, diagnosis, 1960
- computer, computer program, fortran, information system, fortran, 2422
- diagnosis, digital computer, international coordination, 1195

patient, computer, computer program, digital computer, hospital management, 1175

patient care, digital computer, monitoring, nursing, information processing, digital computer, data processing, 3175

- hospital, model, dynamic model, 883

patient identification, blood pressure, data processing, densitometry, fluoroscopy, heart catheterization, roentgenography, television, display system, 2 d representation, 1101

pattern recognition, analog computer, digital computer, 1654

- algorithm, pattern classification, 2026
- analog computer, 2595
- auditory discrimination, behavior, hearing, memory, auditory display, multidimensional coding, 2883
- blindness, braille, reading machine, touch, character recognition, braille output, 404

- cell membrane potential, digital computer, on line computer, spike, extracellular recording, 134
- computer, diagnosis, digital computer, 1179
- character, learning, character reader, learning classifier, 2131
- computer program, digital computer, hearing, speech, segment classification, 2724
- cell, digital computer, microscopy, allergy, phase contrast microscopy, trypanosoma, position indicator, 3770
- data processing, 1418
- digital computer, hematology, leukocyte, 1623
- digital computer, hearing, sound, lestener computer cooperation, 1952
- digital computer, speech, real time recognition systems, 3447
- error probability, 1249
- emotion, speech, correlates, spectrogram, 1686
- event recognition, real time analysis, 2456
- electroencephalography, periodic waveform, clustering technique, 2919
- feature extraction, vectorization, 1662
- hearing, music, sound perception, 97
- hearing, memory, short term memory, speech, 1683
- hearing, music, speech, intelligibility, complex sound, 2887
- information, model, vision, modulation transfer function, structured image, unstructured image, 2894
- information, system analysis, behavior, parameter extraction, 3583
- least mean square method, 41
- linear sequential classification, 1250
- landolt ring, vision, 1903
- mathematic model, visual discrimination, honeybee, 1291
- mathematic model, vision, visual illusion, 1564
- numericals, transformation, 1416
- oscilloscope, parameter selection, 627
- photography, image processing, scene analysis, methods, review, 989
- statistics, vision, 1292
- survey, 1655
- stochastic model, signal noise ratio, 1661
- spectrometry, generalized solution, 2653
- television, signal noise ratio, movement detection, man machine interaction, 1257
- vision, mueller phenomenon, algorithm, 40
- vision, binary classification, 104
- vision, static information, dynamic information, 107
- visual orientation, flight, fly, 3496
- paw edema**, edema, measurement device, small animal, 368
- peltier effect**, bath, heart muscle, temperature, waterbath, isolated heart muscle, method, 1734
 - cooling, control device, 2928
 - thermal conductivity, 1015
- pelvis artery**, artery, artery stenosis, balloon catheter, corset balloon catheter, dotter type, 3764
- penis**, impotence, penis erection, prosthesis, pressurized elastic tube implantation, 1893
- penis erection**, impotence, penis, prosthesis, pressurized elastic tube implantation, 1893
- peptic ulcer**, endoradiosonde, stomach acid, stomach ulcer, telemetry, man, 2256
- peptide**, cell membrane, polypeptide, synthetic membrane, bimolecular conformation, 3045
- perception**, cold, skin, skin temperature, thermoreceptor, stimulation level and duration, 3136
 - data processing, magnetic field, 278
 - eye movement, retina, vision, visual system, man machine interaction, total system evaluation, 2063
 - hearing, pitch perception, 87
 - hearing, loudness, masking, sound perception, 556
 - hearing, temporal lobe, gold fish, temporal summation, 1285
 - model, statistics, variance analysis, 54
- perception deafness**, hearing aid, ear trauma, 3123
 - hearing aid, hypacusis, pitch perception, 3504
- perfusion chamber**, cell culture, microscopy, nerve cell, nerve cell potential, 2309
- pericardiocentesis**, ultrasonics, ultrasonic transducer, guided pericardiocentesis, ultrasound transducer, 3066
- perimetry**, 1914
 - campimetry, new model, 405
 - visual field, method of determining, 800
- periosteum**, orbit, surgery, retractor, elevator, periosteal elevator, 1947
- peripheral vascular resistance**, artery pulse, carotid artery, echocardiography, determination by noninvasive method, 1884
 - analog computer, blood flow, model, muscle blood flow, calculation, 1976
 - blood vessel muscle, muscle blood flow, 123
 - blood pressure, diagnosis, heart disease, heart model, heart rate, left heart ventricle, heart muscle contractility, control system, 357
- peristalsis**, esophagus peristalsis, esophagus pressure, respiration, tantalum, cat, tantalum wires, manometry, 1857
- personality**, deafness, hearing, noise, review, 814
- pertechnetate tc 99m**, brain blood flow, computer, computer program, 487
- ph**, acid base balance, blood ph, body temperature, modified singer hasting's nomogram, 2197

- acid base balance, blood gas, blood ph, carbon dioxide tension, oxygen tension, correct measurement, 2636
- brain steady potential, electroencephalography, electrooculography, electroretinography, glia cell, nerve cell potential, sodium, 1708
- blood gas, carbon dioxide tension, gas analysis, oxygen tension, review, 2634
- caries, ph electrode, tooth plaque, 826
- cell membrane steady potential, potassium, ranvier node, ranvier node membrane potential, 2095
- carbon dioxide tension, hemoglobin, blood oxygen dissociation curve, oxyhemoglobin, continuous recording, 2633
- hyperbarism, hypothermia, liver perfusion, organ perfusion, automatic ph adjustment, 1861
- hemoglobin, mathematic model, oxygenation, structure activity relation, 2,3 diphosphoglyceric acid, 2257
- phagocytosis**, leukocyte motility, 2 dimensional random walk analysis, 2725
- phantom**, depth dose, dosimetry, muscle, neutron radiation, radiotherapy, tissue equivalent, 1145
 - dosimetry, radiology, roentgen radiation, image processing, 1146
 - liver, liver injury, scintigraphy, siemens scintimat, 3525
 - monitoring, resuscitation, electronic evaluation system, 365
- pharmaceutic industry**, process control, statistics, tablet, variance, pharmaceutical tablet manufacturing, 2840
- pharmacokinetics**, computer program, digital computer, drug, model, 1953
- pharmacology**, computer, toxicology, APL/360 system, 1611
 - cage, food intake, toxicology, powered diet, mouse, rat, 2240
 - computer, dose response, smooth muscle, on line computer, 2826
 - drug, electroencephalography, frequency analysis, digital output, 2912
 - electromyography, intestine, smooth muscle, telemetry, ureter, uterus, 1752
- pharynx**, endoscopy, videorecording, oral endoscope, videotape, 3075
- phase contrast microscopy**, cell, digital computer, microscopy, allergy, trypanosoma, position indicator, pattern recognition, 3770
 - electron microscopy, demonstration, 2576
 - electron microscopy, solution of phase problem, 2584
- phase detection**, amplifier, lock in amplifier, 608
 - cell membrane, measurement, 2491
 - evoked cortical response, evoked visual response, signal processing, electric filter, phase distortion, 2117
 - frequency discriminator, 2132
 - heart rate, hodgkin huxley equation, model, vagus nerve, phase sensitive model, 2089
 - lock in amplifier, non periodic signal, 618
 - lock in amplifier, signal noise ratio, analysis, 619
 - low frequency, 630
 - signal detection, generalised technique, 526
 - selective amplifier, wheatstone bridge, automatic tuning, 2520
- phase discrimination**, auditory masking, binaural hearing, hearing, correlated noise, uncorrelated noise, interaural phase difference, 554
 - auditory masking, binaural hearing, hearing, loudness discrimination, three listening conditions, 1685
 - auditory masking, binaural hearing, hearing, signal noise ratio, 2057
 - auditory masking, binaural hearing, hearing, sound lateralization, 3241
 - binaural hearing, hearing, signal detection, 95
 - hearing, distortion, monaural hearing, $f_2 - f_1$, $2f_1 - f_2$, 89
- phase lock amplifier**, digital computer, digital filtering, high order discrete loop, 1789
 - lock in amplifier, application, 3629
- phase meter**, current meter, power measurement, voltmeter, six port coupler, 2190
- phase modulator**, telemetry, electric interference, 3337
- ph electrode**, acidosis, blood, blood ph, hemodialysis, hemolysis, electrodeacidification, 3455
 - caries, ph, tooth plaque, 826
 - corti organ, microelectrode, oxygen, tunnel of corti, guinea pig, 929
 - colon tenia, fet semiconductor, glass electrode, sodium electrode, ion sensitive fet, guinea pig, 1509
 - kidney tubule, microelectrode, double barreled glass electrode, production, testing, 1895
- phenylalanine**, hydrostatic pressure, leucine, protein synthesis, ribosome, polyuridylic acid, 1241
- phenylketonuria**, model, 1073
- phenytoin**, computer, electrocardiography, heart arrhythmia, heart ventricle, lidocaine, monitoring, ouabain mouse, 2801
- phonocardiography**, blood pressure, body temperature, electrocardiography, heart disease, respiration, telemetry, neurotransmitter, multichannel system, 3330
 - computer, data processing, electrocardiography, 1186
 - diving, telemetry, electrocardiography, pressure chamber, pressure transient, 6 channel system, 1767
 - direct lever plotters, 2280
 - electrocardiography, exercise, heart tape recorder, test, voice, portable device, magnetic tape recorder, 3061
- phonometry**, sound, stapes muscle, device, extratympanic method, 2345
- phosphatidylserine**, calcium, hodgkin huxley equation, nerve cell, nerve conduction, nerve fiber membrane, potassium, serine, sodium, excitable membrane, 2498
- phosphofructokinase**, allosteric enzyme, glycolysis, oscillation, enzyme, chemical kinetics, glycolytic oscillation, 888
- phospholipid membrane**, action potential, air, membrane potential, water, electric potential, 2077

- cell function, membrane potential, membrane resistance, 1312
- cell membrane conductivity, kinetic adhesion, 2852
- membrane potential, oxidative phosphorylation, membrane distance, 2495
- phosphoric acid**, cell membrane, imidazole, muscle fiber membrane, potassium, sodium, ionogenic groups 1853
 - citric acid, erythema, eugenol, mouth mucosa, methacrylic acid methyl acid, 1856
- phosphoric acid**, erythrocyte membrane permeability, magnesium, methylene blue, neuraminidase, erythrocyte membrane potential, sulfate derivative, 3057
- phosphorus**, alternating current, cadmium, copper, electroluminescence, cds cu powder, 2625
 - cadmium, copper, direct current, electroluminescence, 2673
 - suspension, water pollution, activated carbon, water treatment, 1846
- phosphorus 32**, computer program, iodine 131, statistics, nuclear radiation, chi square test, 2923
- photic driving**, electroencephalography, stroboscopy, automatic estimation, 2305
- photo cell**, amplifier, photometry, selenium, trans impedance circuit, 614
 - diode, photosensitizer, semiconductor, direction angle, error, 494
 - infrared radiation, near infrared, 1832
 - spectrometry, spectral sensitivity, 1342
 - triangular perturbation, 534
- photochemistry**, beta carotene, vitamin a aldehyde, polyene, flash photolysis, triplet states, 2719
- photocoagulation**, retina, retina detachment, argon laser, fluorescein angiography, 100 patients, 1821
- photoconductivity**, retina, frog, pigeon, 1700
- photoconductor**, photoelectric plethysmography, plethysmography, photoelectric cell, 3671
- photocurrent**, retina rod, retina rod outer segment, rhodopsin, 573
- photodiode**, diode, 3008
 - electroencephalography, electroretinography, photostimulation, 3099
- photoelectric cell**, infrared radiation, light absorption, 3415
 - photomultiplier, photocathode, stability, 3400
 - photomultiplier, ultraviolet radiation, mgf2, lif cathode, 3403
 - photoelectric plethysmography, plethysmography, photoconductor, 3671
- photoelectric plethysmography**, circulation, infrared radiation, photoresistor, plethysmography, semiconductor, skin, skin blood flow, signal noise ratio, 3043
 - finger, plethysmography, raynaud phenomenon, curve analysis by electronic derivation, 3710
 - plethysmography, photoelectric cell, photoconductor, 3671
- photographic film**, cosmic radiation, spectrometry, ilford k2, 321
 - holography, photopolymer material, 1401
 - infrared radiation, thermography, cu2hgi4, 2152
 - laser, thermal radiation, sensitivity, 2966
 - photography, image reversal, method, 2575
 - sensometer, color film, soviet instruments, 1446
- photography**, camera, visual system, panoramic photography, 652
 - camera, gastroscopy, upper stomach part, 1518
 - camera, lens, modulation transfer function, 30 objectives, 2573
 - droplet, moving particle, 1398
 - diving, underwater photography, 1403
 - data processing, densitometry, digital computer, spectrometry, strip chart recorder, 2613
 - electrophotography, survey, 231
 - ear drum, holography, vibration, 1684
 - filter, holography, phase hologram, dichromated gelatin, 244
 - fiberscope, gastroscopy, extra and intragastric cameras, 3050
 - growth, model, mouse, 331
 - image processing, multiplex image storage, 229
 - image intensifier, high speed, review, 669
 - image processing, integrated image, 2961
 - lens, image processing, fresnel lens, 2659
 - pattern recognition, image processing, scene analysis, methods, review, 989
 - photometer, light scattering, photographic method, 1043
 - photographic film, image reversal, method, 2575
 - polaroid camera, application, hints, 3351
 - polaroid camera, review, polaroid sx70, 3359
 - stereophotography, 2572
- photolysis**, electron spin resonance, spectrometry, sampling amplifier, 1050
 - electron spin resonance, spectrometry, 2686
 - flash lamp, xenon lamp, 600 joule, 2660
 - light, ultraviolet radiation, xenon lamp, osram 150 w, intensifier, 2661
 - spectrometry, radiolysis, general technique, 292
- photometer**, contact photometer, fm 99, 1819
 - gas, light absorption, ultraviolet radiation, liquid, 1045
 - light transmission, ultraviolet radiation, fm 85, 1044
 - light scattering, scattering, multiple diffusion, 1818
 - photography, light scattering, photographic method, 1043
 - spectrometry, recorder, micro spectrometer, 653
- photometry**, 3 baffle geometry, 2203
 - accuracy improvement, 287

- amplifier, selenium, photo cell, trans impedance circuit, 614
- photometry**, amplifier, logarithmic amplifier, 2519
- photometry**, blood, colorimetry, light absorption, model, light scattering, 289
 - blood, colorimetry, light absorption, light scattering, 345
 - colorimetry, 1466
- photometry**, colorimetry, pulfrich photometer, 2385
- photometry**, color vision, vision, heterochromatic photometry, methods, comparison, 2773
 - colorimetry, color vision, model, retina fovea, spectral sensitivity, heterochromatic additivity, 3252
 - colorimetry, illumination, spectrometry, metamerism, 3609
 - fluorescence, optic filter, spectrometry, light reflection, reflection measurement, 3402
 - history, 1459
 - light, sunlight, 1458
 - light distribution, japan, 1460
 - light, tubular lamp, 3001
 - microscopy, spectrometry, cary 14 or cary 17, 2670
 - observation window, 1455
 - organization, 1464
 - radiometry, terminology, 1220
 - standards, 1465
- photometry**, spectrometry, visual system, additional system, 3000
 - spectrometry, multi wedge comb attenuator, linearity, 3002
- photometry**, spectrometry, spectrophotometry, single channel, review, 3005
 - spectrometry, logarithmic amplifier, double beam photometer, 3284
 - telephotometer indo, 2111
 - virus, optic density, continuous recording of optic density, automatic recording, 2187
- photomultiplier**, cobalt 60, gamma radiation, scintigraphy, leading edge, 313
 - cooling, nitrogen, 597
 - cooling, spectrometry, spectral sensitivity, 1341
 - collection efficiency, rca 8850, 8852, emi 9558, 2513
 - non linearity, 2512
 - photoelectric cell, photocathode, stability, 3400
 - radiation, 1986
 - radiation, gamma radiation, scintillation counting, pulse shape, 2696
 - scintillation counting, external metal coating, 1451
 - statistics, signal noise ratio, rca 8850, 2672
 - single photon counting, efficiency, 2836
 - transfer, signal noise ratio, modulation transfer function, biasing circuit, 3411
 - ultraviolet radiation, photoelectric cell, mgf2, lif cathode, 3403
 - venetian blind type, 2516
- photon**, bone density, dosimetry, measurement, man, 1434
- photoperiod**, circadian rhythm, day length duplication, 561
- photopic vision**, retina fovea, vision, 560
- photoreceptor**, circadian rhythm, eye, locomotion, motor activity, crayfish, 409
 - color vision, light absorption, retina, retina cone, visual pigment, anomalous dispersion, 565
 - electroretinography, model, retina, sodium, cephalopod, 3120
 - light absorption, rhabdomere, bee, 408
 - model, scotopic vision, vision, 2 dimensional image receptor, 1293
 - photoreceptor potential, spectral sensitivity, grasshopper, bumblebee, 2500
- photoreceptor potential**, photoreceptor, spectral sensitivity, grasshopper, bumblebee, 2500
- photoresistor**, blood vessel, capillary, microcirculation, photosemiconductor, diameter measurement, sensor scan technique, 2283
 - circulation, infrared radiation, photoelectric plethysmography, plethysmography, semiconductor, skin, skin blood flow, signal noise ratio, 3043
 - image, ruticon, erasable image, 1385
 - roentgen radiation, cawo4, 2216
- photosemiconductor**, amplifier, movement detection, 1030
 - amplifier, fast response, 3194
 - blood vessel, capillary, microcirculation, photoresistor, diameter measurement, sensor scan technique, 2283
- photosensitizer**, diode, semiconductor, photo cell, direction angle, error, 494
- photostimulation**, cell membrane potential, lipid membrane, 141
 - electroencephalography, alpha adrenergic receptor blocking, 1907
 - electroencephalography, electroretinography, photodiode, 3099
 - electroencephalography, evoked cortical response, eye, motivation, task performance, age, 3102
- physician**, attitude, computer, paramedical personnel, 1162
- physiology**, analog computer, medical education, medical school, 237
 - computer, examination, medical education, multiple choice test, 1950
- picture phone**, sampling, television, band width reduction, 1391
- piezoelectricity**, bone, skeleton deformity, bone reconstruction, 3513
 - bone, collagen, measurement, 3617
 - switch, pigeon, 3097
- piezoelectric transducer**, accelerometer, damping, 598
 - dosimetry, electret, microphone, voltmeter, electret device, 1991

- signal detection, sound detection, distributed sources, 1823
- transducer, non linearity, 11
- pi meson**, carbon, oxygen, pion radiation, radiobiology, radiotherapy, water, radiation absorption, capture site, 950
- pion radiation**, carbon, oxygen, radiobiology, radiotherapy, water, radiation absorption, pi meson, capture site, 950
- cosmic radiation, scintillator, ne 102a, 2230
- pitch discrimination**, hearing, music, speech, frequency transition, 2478
- learning, pitch perception, speech, vowel, fundamental frequency, synthetic speech, sound spectrograms 2876
- pitch perception**, hearing, perception, 87
- hearing, speech, pitch contours, automatic recognition, 1694
- hearing aid, hypacusis, perception deafness, 3504
- learning, speech, vowel, pitch discrimination, fundamental frequency, synthetic speech, sound spectrograms, 2876
- placenta**, computer, videoscanning, 1202
- plant**, air pollution, computer model, environmental health, power, 1410
- growth, mathematic model, 1643
- plasma**, artificial kidney, blood flow, erythrocyte, hemodynamics, thin film blood flow, 3721
- blood, circulation, gas embolism, model, gas bubble, gas diffusion, chemical reaction, 1301
- blood, blood volume, dextran, rheology, sodium chloride, viscosity, in vivo, dog, 1523
- blood, heart infarction, rheology, thrombocyte aggregation, viscosity, shear stress, 1863
- blood flow, model, plasma substitute, viscosity, oscillatory flow, 3058
- digital computer, liver, model, thyroxine, compartment model, distribution model, man, 886
- serum colloid osmotic pressure, colloid osmotic pressure, osmometer, improvement, 346
- plasmalemma**, cell, nucleotide, protein, ribonuclease, yeast, cooperative conformational membrane rearrangement, yeast, 2462
- plasma substitute**, blood flow, model, plasma, viscosity, oscillatory flow, 3058
- plaster**, biomechanics, orthopedics, walking, bandage, mechanical properties, 2870
- gamma radiation, plastic, scintillator, plastic scintillator, lead loaded, 2221
- plastic**, bone, cement, total hip prosthesis, durability, wear, friction, 7 types of hip prosthesis, 3083
- cornea, cornea transplantation, silastic, cutting, silicone cups, 3765
- gamma radiation, plaster, scintillator, plastic scintillator, lead loaded, 2221
- kidney perfusion, kidney preservation, nylon, oleate, poly(vinyl chloride), silastic, tube, organ perfusion tube choice, rabbit kidney, 3091
- methacrylic acid methyl acid, voltage rise time, electric strength, 15
- metal, total hip prosthesis, joint prosthesis, friction, frictional wear, several thermoplastic materials, pin and disk machine, dry and wet environment, 2352
- plastic membrane**, arterial carbon dioxide tension, arterial oxygen tension, arterial ph, extracorporeal circulation, oxygenation, thrombocyte count, coronary artery bypass graft, 3m² lande edwards disposable oxygenator, 1877
- plastic tube**, cecum, colon, fiberoscope, proctosigmoidoscopy, sigmoid, straightening tube, 2249
- platinum**, artificial heart pacemaker, bioenergy, fuel cell, magnesium, power supply, 3459
- coating, microelectrode, glass, tungsten, 275
- electrode, electroencephalography, gold, iridium, metal, palladium, rhodium, comparison, 392
- plethysmography**, ankle, artery obstruction, leg blood flow, thigh, measurement, 1088
- artery pulse, finger, long term measurement device, 3466
- artery, vasodilatation, measuring method, 3711
- blood flow, strain gauge transducer, 356
- circulation, infrared radiation, photoelectric plethysmography, photoresistor, semiconductor, skin, skin blood flow, signal noise ratio, 3043
- chronic obstructive lung disease, computer, heart output, impedance plethysmography, spirometry, lung function, 3077
- finger, photoelectric plethysmography, raynaud phenomenon, curve analysis by electronic derivation, 3710
- impedance plethysmography, model, flow, 2284
- impedance plethysmography, muscle impedance, versatile and economic system, 2631
- photoelectric plethysmography, photoelectric cell, photoconductor, 3671
- pleura**, breathing work, lung, pleura pressure, frictional force, 66
- displacement, gravity, lung, lung alveolus, lung expansion, mathematic model, thorax pressure, finite element displacement analysis, 3672
- pleura pressure**, breathing work, lung, pleura, frictional force, 66
- lung ventilation, xenon 133, non linear distribution theory, 373
- plotter**, computer model, digital computer, display system, hidden line elimination, 1409
- computer program, digital computer, printing, 2970
- statistics, 3299
- time, sum plotter, 2184
- plumbicon**, image intensifier, roentgen radiation, television, vidicon, camera tube, modulation transfer function, 2796
- plutonium**, body, computer program, digital computer, urine, seabeach, 2420
- plutonium 238**, assisted circulation, nuclear energy, 1532
- pneumography**, artery pulse, carotid artery, driver, electroencephalography, telemetry, workload, electrocardiography, 3655

- monitoring, rheology, lung function, design, 377
- retroperitoneal pneumography, device, 371
- pneumotachography**, lung model, model, validation, 63
 - exercise, lung ventilation, lung volume, second time derivative v recording, 2296
 - newborn, infant system improvement, 3714
- polarimetry**, review, 285
- polarography**, light, light polarizer, lamp, tungsten lamp, 2207
- polaroid camera**, photography, application, hints, 3351
 - photography, review, polaroid sx70, 3359
- polyalanine**, ceramic, glass, epitaxy, 498
- polyene**, beta carotene, photochemistry, vitamin a aldehyde, flash photolysis, triplet states, 2719
- polyethylene**, helium, model, neutron detection, scintillation counting, delay, 2704
- polyglycolic acid**, catgut, polylactic acid, suturing, scanning electron microscopy, rat, 2830
- polylactic acid**, catgut, suturing, polyglycolic acid, scanning electron microscopy, rat, 2830
- polymer**, cement, cyanoacrylate, dentistry, glue, adhesive agent, 3565
 - roentgen radiation, radiation scatter, biopolymer, 2215
- polymethyl methacrylate**, bone, fracture, tibia fracture, rabbit, 1214
- polymethylmethacrylate**, lens, lens fabrication, moulding, 879
- polyp**, endoscopy, forceps, gastrointestinal tract, flexible forceps, 3535
- polypeptide**, cell membrane, peptide, synthetic membrane, bimolecular conformation, 3045
- polystyrene**, aluminum, blood, copper, hemolysis, nylon, stainless steel, teflon, implantation, 3698
- polysynaptic reflex**, mathematic model, rabbit, 1904
- polyurethan**, inflammation, subcutis, local reaction, mouse, rat, rabbit, various reactions, 3196
- polyuridylic acid**, hydrostatic pressure, leucine, phenylalanine, protein synthesis, ribosome, 1241
- poly(vinyl chloride)**, kidney perfusion, kidney preservation, nylon, oleate, plastic, silastic, tube,
 - organ perfusion, tube choice, rabbit kidney, 3091
 - muscle, stainless steel, teflon, toxicity, biomaterial, rabbit muscle, histopathology, 3566
- population**, computer, epilepsy, statistics, 875
 - death, genetics, mathematic model, model, statistics, disease, disease liability, recurrence risk, 2010
 - dose response, statistics, mixed population, 2012
 - dose response, granulocyte, macrophage, model, data processing, model, dose response curve, colony stimulating factor, 2845
 - ecology, model, statistics, age dependent branching, 22
 - ecology, fertility, mathematic model, model, fertility distribution, 2027
 - epidemiology, infection, model, statistics, disease, 3578
 - fertility, genetics, mathematic model, statistics, genetic analysis, self fertilized population, rice wheat, 2014
 - genetics, autonomous state classifier, 895
 - genetics, geography, 3224
 - model, 1071
- population density**, bacterium, sampling, statistics, water system, negative binomial distribution, 2011
- population dynamics**, computer model, digital computer, non linear dynamics, 334
 - food intake, mathematic model, model, 3222
 - sibling, age, branching process, sibling correlation, 3217
- population growth**, model, age dependent population growth, 514
 - model, 3214
- population model**, immigration, age dependent branching with immigration, mathematical method, 513
- pore**, membrane, molecular dimension, 51
- portal vein**, liver, liver blood flow, liver impedance, portal vein obstruction, rat, 3053
- portal vein obstruction**, liver, liver blood flow, liver impedance, portal vein, rat, 3053
- position indicator**, cell, digital computer, microscopy, allergy, phase contrast microscopy, trypanosoma, pattern recognition, 3770
- positioning**, lens, wide angle, 282
- positive pressure ventilation**, airway pressure, alarm monitoring, alarm system, child, 2800
- posterior tibial artery**, blood pressure, brachial artery, doppler effect, measurements, 2734
- postsynaptic potential**, computer model, mathematic model, nerve cell, nerve cell model, synapse,
 - input output relations, mollusc comparison, 2920
 - dendrite, model, nerve cell, nerve cell potential, compartment model, 2918
 - nerve cell model, nerve cell network, fluctuation analyzer, 578
- potassium**, acetylcholine, model, saliva, saliva gland, salivation, acinar cell, 2721
 - cochlea, hearing, mechanoreceptor, hair cell, lateral line system, fish, mechanosensitivity, 555
 - calcium, hodgekin huxley equation, model, sodium, excitable membrane, physicochemical model, 1329
 - cell membrane permeability, chloride, muscle fiber membrane, muscle fiber membrane permeability, sodium, crab, 1651
 - cell membrane permeability, muscle fiber membrane, ontogeny, sodium, soleus muscle, age, rat, 1665
 - cell membrane capacitance, cell membrane potential, cell membrane resistance, ehrlich ascites tumor, 1712
 - calcium, hodgekin huxley equation, model, sodium, excitable membrane, physicochemical model, 1720
 - cell membrane, imidazole, muscle fiber membrane, phosphoric acid, sodium, ionogenic groups, 1853
 - cell membrane permeability, nerve cell membrane, large square lattice cooperation, 2018
 - cell membrane steady potential, ph, ranvier node, ranvier node membrane potential, 2095
 - calcium, cell membrane permeability, model, sodium, excitable membrane, molecular mechanism, 2494
 - calcium, hodgekin huxley equation, nerve cell, nerve conduction, nerve fiber membrane,

- phosphatidylserine, serine, sodium, excitable membrane, 2498
- calcium, magnesium, metabolism, nerve cell, ribonucleic acid, sodium, uridine h 3, mollusc, 2718
- calcium, cell membrane potential, cell membrane steady potential, ranvier node, ranvier node membrane, ranvier node membrane potential, 3068
- cell membrane potential, chloride, sodium, tissue culture, cell strain 1, 3259
- electrostimulation, hodgkin huxley equation, nerve fiber potential, increased modulation and linearity, constant current stimulus, 153
- extracellular fluid, nerve cell, nerve cell membrane, sodium, snail, 933
- fast muscle, muscle fiber, slow muscle, sodium, frog, 2782
- microelectrode, potassium electrode, double barrel electrode, modification, 2926
- nerve fiber membrane permeability, hodgkin huxley equation, hyperpolarization, nerve fiber membrane 50
- nerve fiber membrane permeability, hodgkin huxley equation, nerve fiber membrane, noise from open close kinetics, 518
- nerve cell membrane potential, sodium pump, snail, 1716
- nerve fiber membrane impedance, hodgkin huxley equation, mathematic model, nerve fiber membrane diffusion, 2496
- potassium electrode**, microelectrode, potassium, double barrel electrode, modification, 2926
- potentiometer**, low frequency voltage divider, 2103
 - servocircuit, feedback system, performance, 6
 - voltage divider, circular divider, 3381
- powder**, bone, cobalt 60, dosimetry, electron spin resonance, gamma radiation, radiotherapy, thermoluminescence, bovine, deproteinized bone powder, 1589
- power**, air pollution, computer model, environmental health, plant, 1410
 - power supply, apparatus, 1373
 - proportional counter, scintillation counting, gas scintillation, improved resolution, 3026
- power amplifier**, amplifier, audioamplifier, integrated circuit, 2122
 - electric motor, review, 1338
 - electric motor, booster, 1339
 - electric motor, permanent magnet dc motor, constant speed drive, 2835
 - integrated circuit, ttl/lsl driver, 1802
 - operational amplifier, output stage μ a 741, 622
 - operational amplifier, electric motor, 3623
 - power supply, temperature stabilization, transistor paratelling, 3288
- powered prosthesis**, arm, arm prosthesis, prosthesis, design, 3750
 - electric prosthesis, hand prosthesis, influenza, feedback system, 2355
 - noise, acoustic standard, 2778
- power failure**, computer memory, power supply, stand by power supply, mos memory, 2167
- power line interference**, active filter, notch filter, 1349
 - alternating current, magnetic field, reduction, 2982
 - interference suppression, 2540
- power measurement**, alternating current, electric power, 3 voltmeter method, 2124
 - bolometer, electric power, electromagnetic radiation, millimeter wave, 2212
 - bolometer, microwave radiation, calibration, 2679
 - carbon dioxide, carbon dioxide laser, laser, 1444
 - calorimetry, electric power, frequency range, 2106
 - current meter, phase meter, voltmeter, six port coupler, 2190
 - carbon dioxide laser, laser, light, simple method, 2645
 - calorimetry, laser, pulsed laser, 2650
 - calorimetry, laser, pulsed laser, 2651
 - electric power, six port coupler, 2105
 - microwave radiation, comparison method, 2213
 - microwave radiation, marconi, 3418
- power supply**, ac stabilizer, 2510
 - artificial heart pacemaker, bioenergy, fuel cell, magnesium, platinum, 3459
 - battery, electric motor, converter, 2551
 - current stabilizer, 195
 - converter, high reliability, 644
 - computer memory, power failure, stand by power supply, mos memory, 2167
 - current amplifier, low current generator, 10(-10) - 10(12) as calibration, 3304
 - dc, review, 636
 - electronic equipment, overload protection, protection system, 634
 - electric accident, performance, 2509
 - electronic switch, 2552
 - emergency, hospital, 3533
 - fet semiconductor, stabilized power supply, 2136
 - fet semiconductor, current or voltage stabilization, 2556
 - high accuracy, 1357
 - high voltage power supply, digital control, 1364
 - high voltage supply, stabilized power supply, 2555
 - integrated circuit, zener diode, temperature, compensation, 3310
 - lamp, microlamp, radiation stability, 3010
 - logic circuit, n mos device, 3306

- projector, lamp, 721
- power, apparatus, 1373
- pulse generator, spark chamber, nuclear radiation, 2550
- power amplifier, temperature stabilization, transistor paratelling, 3288
- semiconductor, switch, 589
- semiconductor, dc, transformerless, 637
- step voltage, high voltage, 974
- silicone, semiconductor diode, high voltage supply, 1372
- stabilized power supply, regulation test, 1377
- stabilized power supply, simplification, 2133
- stabilized power supply, overload protection, 2947
- stabilized power supply, output booster, 3308
- stabilized power supply, high voltage supply, 3642
- thyristor, high voltage, 12v source, 208
- thyristor, electric motor, ac motor control, 976
- thyristor, avalanche rectifier, 1993
- thyristor, stabilized power supply, 3303
- transformation, ferrite, transformer design, 3312
- ultraviolet radiation, electrical stabilization, 1474
- ultrasonics, highly isolated device, 2237
- voltmeter, voltage monitoring, 2506
- xenon, 720
- preamplifier**, computer, signal noise ratio, television camera, 233
 - semiconductor, low noise, 2531
- precipitation**, antibody, antigen, antigen antibody reaction, microscopy, 281
- pregnancy**, contraception, monitoring, temperature, thermometer, 691
 - intrauterine pressure, labor, 782
- preoptic area**, cold stress, computer model, hypothalamus, skin temperature, thermoreceptor, environment temperature, 2 temperature input models, 2875
- pressoreceptor reflex**, arterial ph, blood pressure, depressor nerve, mathematic model, vagotomy, 2071
- pressure**, amnion, electrocardiography, fetus, heart rate, monitoring, review, technic, 436
- pressure chamber**, diving, phonocardiography, telemetry, electrocardiography, pressure transient, 6 channel system, 1767
 - hydrostatic pressure, microscopy, 1-1600 atm, flagella, 3353
- pressure measurement**, intracranial pressure, telemetry, 1754
- pressure recording**, catheter, catheter pressure transducer, heart muscle oxygen consumption, micromanometer, in vivo comparison, 2288
- pressure transducer**, blood pressure, testing, 2286
 - blood pressure, heart catheterization, integrated circuit, 2931
 - brain ventricle pressure, cerebrospinal fluid, intracranial pressure, disposable system, 3107
 - blood pressure, semiconductor, strain gauge transducer, miniature pressure transducer, 3388
 - blood pressure, calibration, 3627
 - catheter, ultraminiature 5 fr catheter, 1737
 - calibration, 2113
 - diode, semiconductor, strain gauge transducer, ultraminiature, 2515
 - intracranial pressure, coplanar pressure transducer, dog, 1555
 - integrated circuit, strain gauge transducer, review, 1806
 - integrated circuit, piezoresistive transducer, 2629
 - intracranial pressure, monitoring, semiconductor, strain gauge transducer, technical note, 2761
 - intracranial pressure, evaluation of recording system, 30 patients, 3109
 - intracranial pressure, monitoring, 3735
 - ultrasonics, 1736
 - vibrating element, 1432
- presynaptic inhibition**, mathematic model, synapse transmission, 2097
- printed circuit**, 5
 - design, 3204
- printer**, digital computer, selection guide, 1419
 - digital computer, price, performance, 1421
 - digital computer, scintiscanning, display system, 1966
- printing**, computer program, digital computer, plotter, 2970
- prism**, lens, visual acuity, fresnel lens, 2482
- probability**, nuclear medicine, oxygen 15, radioisotope, statistics, strontium 85, likelihood, mean square error, 2797
- probability model**, auditory system, mathematic model, model, nerve cell potential, 1691
- problem solving**, medicine, system analysis, book, 1949
 - medicine, system analysis, workbook, 3540
- process computer**, digital computer, process control, introduction, 242
- process control**, analog computer, education, 2164
 - breeding, genetics, model, statistics, selection differentials, animal, plant, 2015
 - computer, digital computer, introduction, 679
 - cobalt 60, computer, dosimetry, radiotherapy, electronic calculator, 842
 - computer, digital computer, sequential system, control lability, 1796
 - digital computer, process computer, introduction, 242

- digital computer, on line computer, 1413
- density, signal noise ratio, impulse response, 2849
- electric filter, constant gain, kalman filter, 3584
- hospital, elevator, lift control, 750
- hemorrhage, model, life sustained function, 896
- heating, thermostat, 1428
- integral derivative controller, 1423
- optimization, 527
- on line computer, time delay, feedback system, 3365
- recording, honeywell vumatik, 2535
- switch, self oscillating switch, 1422
- statistics, tablet, variance, pharmaceutical industry, pharmaceutical tablet manufacturing, 2840
- vacuum, partial vacuum regulator, 695
- proctosigmoidoscopy**, cecum, colon, fiberoscope, sigmoid, plastic tube, straightening tube, 2249
- prognosis**, chronic disease, computer, diagnosis, heart failure, model, symptom, aorta incompetence, 2810
- programmer**, blindness, computer memory, computer program, speech, 448
- projection**, retina image, projection method with visual control, cat, 2343
- projector**, laser, television, display system, 1776
 - laser, television, light deflector, bragg cell, 2160
 - landolt ring, visual acuity, zoom lens, 2336
 - laser, television, light deflector, bragg cell, 2580
 - power supply, lamp, 721
 - property, 3342
- proline h 3**, collagen, connective tissue, mathematic model, metabolism, rats, mathematic modelling, 894
 - collagen, connective tissue, mathematic model, metabolism, rats, mathematic modelling, 3223
- proportional counter**, 2643, 2705
 - chamber, hybrid chamber, 737
 - gamma detection, gamma radiation, properties, 2223
 - limitation, 2201
 - large area, 3428
 - neutron detection, efficiency, 2707
 - power, scintillation counting, gas scintillation, improved resolution, 3026
 - radiotracer, tritium, low back ground, 735
 - roentgen radiation, gas amplification, 3024
 - scintillation counting, large area counter, 1490
 - xenon 133, nuclear radiation, gas amplification, 1442
- propranolol**, adrenalin, chlorpromazine, coronary artery flow, heart output, isoprenaline, left heart ventricle, aorta balloon pump, dog, 1530
 - acetylcholine, adrenalin, blood pressure, brain blood flow, medulla oblongata, papaverine, measurements, 1869
- prosthesis**, amputation, hand, 1125
 - amplifier, arm prosthesis, electromyography, myoelectric control, transducer, 1131
 - arm, arm prosthesis, powered prosthesis, design, 3750
 - bone, endoprosthesis, joint, joint prosthesis, 2780
 - copper, thrombosis, histology, ultrastructure, dog, 1872
 - conditioning, face, model, movement, linear filter theory, cat, prosthesis, 3110
 - computer, data processing, myoelectric control, orthesis, 3128
 - electromyography, myoelectric control, biofeedback, 2358
 - electromyography, myoelectric control, design of control system, 3134
 - fatigue, finger, joint, silastic, fatigue testing, 415
 - face, radiotherapy, docking device, 2792
 - hand, myoelectric control, 2779
 - impotence, penis, penis erection, pressurized elastic tube implantation, 1893
 - model, 76
 - teflon, vein, prosthesis patency, piglets, 2727
- protective clothing**, body temperature, cooling, cooling clothing, independent regional control, 3048
- protein**, burn, pseudomonas aeruginosa, lactate silver, silver nitrate, artificial skin, skin dressing, rat, 1985
 - cytochrome, enzyme kinetics, model, oxidation, semiconductor, solid protein, theory, 891
 - computer program, model, myoglobin, display system, structure visualization, 1266
 - computer program, macromolecule, 3 dimensional structure, 1609
 - cell, nucleotide, plasmalemma, ribonuclease, yeast, cooperative conformational membrane rearrangement, yeast, 2462
 - cytochrome c, lipid membrane, roentgen analysis, membrane structure, 2860
 - evolution, stochastic model, 1234
 - electron spin resonance, free radical, biological application, 1653
 - electron paramagnetic resonance, lysozyme, myoglobin, myosin, enzyme, functional group distance, 1833
 - fluorescence, heart perfusion, oxygen tension, pyridine, time sharing readout, frog, 355
 - fluorescence, ultraviolet radiation, 3681
 - model, molecular biology, macromolecular and microsystemic levels, 21
 - nutritional habit, soybean, 2252
 - paramagnetic resonance, hemoglobin, methemoglobin, nitroxide radical, paramagnetic centre distance, 2211

- roentgen diffraction, roentgen radiation, 746
- protein binding**, computer program, immunoassay, generalized computer program, 854
- protein bound iodine**, endoplasmic reticulum, golgi apparatus, iodine 131, microwave radiation, thyroid gland, ultrastructure, animal, 3683
- protein synthesis**, computer model, 25
 - deoxycorticosterone, estradiol, hyperpolarization, meractinomycin, muscle denervation, muscle fiber membrane, muscle fiber membrane potential, ribonuclease, rat, 3046
 - genetics, metabolism, model, ribonucleic acid synthesis, thermodynamics, theory, 2052
 - hydrostatic pressure, leucine, phenylalanine, ribosome, polyuridylic acid, 1241
- proton**, chloride, model, muscle, nuclear magnetic resonance, sodium, water, toad, 2785
 - cell membrane, hydrogen ion, stomach mucosa, conductance, 2863
 - gelatin, model, nuclear magnetic resonance, agarose, 2101
 - neutron radiation, spectrometry, scintillator, ne 102, ne 228, 2228
- proton magnetic resonance**, collagen, relaxation, tendon, nuclear magnetic resonance spectrometry, cattle 3597
- proton radiation**, deuteron radiation, scintillator, ne 230/231, response, 1813
 - dosimetry, thermoluminescence, caso4 mn phosphorus, 3032
- pseudomonas aeruginosa**, burn, protein, lactate silver, silver nitrate, artificial skin, skin dressing, rat, 1985
- psychiatry**, behavior, monitoring, recording, 3531
 - computer program, data processing, hospital, neurology, algol, 449
 - computer program, history, 673
 - computer program, epidemiology, symptom, 857
 - computer program, history, 1780
 - computer program, epidemiology, symptom, 1959
 - digital computer, medical record, cumulative patient register, 10 years, 1194
 - diagnosis, digital computer, 3 methods comparison, 1615
 - mathematic model, mental health, statistics, markov process, 901
 - model, paranoia, 3495
- psychologic test**, behavior, computer, automated test, 3786
 - computer, latent period, minnesota multiphasic personality inventory, 1982
 - computer program, minnesota multiphasic personality inventory, 2429
 - computer program, minnesota multiphasic personality inventory, 2430
 - computer program, minnesota multiphasic personality inventory, 3785
 - computer, 3789
- psychology**, computer memory, computer program, digital computer, extended scat, 1633
 - statistics, 38
- psychometry**, computer, computer program, 489
- psychophysics**, reaction time, statistics, task performance, forced choice experiment, 1666
- psychophysiology**, computer program, 1629
 - computer program, literature, 1630
 - computer, present status, 3788
- public health**, blood pressure, diastolic blood pressure, electrocardiography, screening, systolic blood pressure, cuff method, automation, 124
 - computer model, model, public health service, demographic model, regional model, 2394
 - health care, model, cost minimization, 1260
 - health screening, non automated system, multiphasic screening system, 1595
 - radiation protection, roentgen radiation, television, safety act 1968, 19
- public health service**, ambulance, hospital, telephone, survey, 648
 - computer model, model, public health, demographic model, regional model, 2394
 - design, 3152
 - epidemiology, model, statistics, classification, 910
 - model, telemetry, 3658
- pulsatile flow**, aorta, aorta flow, mathematic model, shear stress, 1303
 - aorta flow, blood flow, blood pressure, diagnosis, mathematic model, model, aorta stenosis, stenosis, strouhal number, 1305
 - blood flow, cardiovascular system, integral analysis method, 931
 - blood flowmeter, nuclear magnetic resonance, system analysis, 932
- pulse**, huffman sequences, 539
- pulse counter**, computer, digital computer, pdp 8/e, 996
- pulse discrimination**, neutron radiation, spectrometry, analysis, 3686
- pulse generator**, 210, 978, 3313
 - audiometry, random train generator, 646
 - artificial heart pacemaker, magnetic field, interference, 3475
 - computer, preset number, test equipment, 635
 - digital, errors, 213
 - delay generator, nuclear radiation, 638
 - delay generator, long delay, 3305
 - electrostimulation, lung function, 376
 - fluorescence, time marker, half life time, exponential increasing interval, 209
 - generator, current control, 2948
 - high voltage, cascade, 2140
 - integrated circuit, multivibrator, variable duty cycle, 3641

- linear accelerator, radiation, radiotherapy, nuclear radiation, trip out circuit, 1035
- low frequency generator, 3638
- multivibrator, double duty multivibrator, 200
- nuclear magnetic resonance, current pulse generator, self diffusion measurement, 1051
- nuclear magnetic resonance, digital pulse generator, programmable generator, 2683
- nuclear magnetic resonance, digital generator, 3023
- power supply, spark chamber, nuclear radiation, 2550
- rise shaping, snap off diode, 2946
- stability, 206
- spectrometry, nuclear radiation, 1811
- stimulator, voltage controlled, 3307
- timer, voltage controlled delay, 2137
- transistor, 2548
- pulse height analysis**, analog digital converter, computer, data processing, digital computer, dec, pdp7, 279
 - amplifier, nuclear radiation, linear amplifier, 1037
 - amplifier, non linear system, dynamic gain change vs nonlinearity, 1835
 - cobalt 60, gamma radiation, time amplitude converter, non linear pulse height, 732
 - gating circuit, nerve cell potential, nervous system, window pulse height discriminator, 785
 - improved correction method, 1710
 - roentgen radiation, semiconductor detector, si(li), 3424
 - semiconductor, fast, 189
 - spectrometry, nuclear radiation, 2149
 - test method, 711
- pulse modulation**, amplitude modulator, telemetry, demodulation, 2570
 - body temperature, telemetry, coding, decoding, 220
- pulse shape discrimination**, gamma radiation, gating circuit, radiation detection, scintigraphy, integrator, semiconductor detector, 315
 - signal detection, time correlation, 34
 - scintigraphy, scintillator, efficiency, 312
 - scintillator, ne 211, 1492
- pump**, artificial heart, heart output, dog, 1085
 - artificial heart, assisted circulation, electrocardiography, automatic regulation, heart synchrony, 3470
 - gas, circulation pump, non contaminating, 687
 - infusion, roller pump, exchange blood transfusion, 344
 - mixture synthesis, micropump, 1014
- punch card**, computer, data processing, serology, 3182
- puncture**, kidney tubule, microelectrode, 1547
- punishment**, avoidance behavior, model, 3229
- purkinje cell**, cerebellum cortex, computer model, purkinje cell potential, background activity model, 2331
 - cerebellum, locomotion, walking, cerebellum anterior lobe, cat, 3738
- purkinje cell potential**, cerebellum cortex, computer model, purkinje cell, background activity model, 2331
- purkinje fiber**, voltage clamp, short fiber producing method, 2744
- pyramidal nerve cell**, cable, electric field, electrocorticography, mathematic model, nerve fiber potential, polarization effect of ecog, 1723
- pyramidal tract**, anterior horn, extrapyramidal system, motor cortex, spinal cord potential, cat, 2308
- pyridine**, fluorescence, heart perfusion, oxygen tension, protein, time sharing readout, frog, 355
- pyruvic acid**, carbon dioxide, computer program, glucose, glycolysis, lactic acid, metabolism, warburg apparatus, 3158
- quadriceps jerk reflex**, golgi tendon receptor, knee, tibia, control system, grasshopper, 2311
- quadriplegia**, mouthstick, 17 year old boy, 3133
- quantum mechanics**, biology, mathematic model, model, enzyme, biological indeterminacy, 3571
- radiation**, alpha radiation, gamma radiation, radiation detection, nuclear radiation, semiconductor detector ge si alloy, 2218
- radiation**, alpha radiation, scintillation counting, scintillator, liquid scintillator, pulse contour records, 2701
 - air pollution, environmental health, ionization meter, radiation monitoring, tritium, 3029
 - cooling, nitrogen, device, 1334
 - fluoroscopy, image intensifier, luminescence, neutron radiation, radiography, roentgen radiation, modulation transfer function, luminescing screen, 3760
- radiation**, gamma radiation, photomultiplier, scintillation counting, pulse shape, 2696
- radiation**, laplace law, transport equation, 277
 - linear accelerator, pulse generator, radiotherapy, nuclear radiation, trip out circuit, 1035
- radiation**, microphone, polarization, electret microphone, 2233
- radiation**, numerical method, composite decay, 2225
- radiation**, photomultiplier, 1986
- radiation**, radiation monitoring, electromagnetic radiation, thin film technique, 2680
- radiation**, radiotherapy, teletherapy, 3518
- radiation absorption**, carbon, oxygen, pion radiation, radiobiology, radiotherapy, water, pi meson,

- capture site, 950
- dosimetry, radiotherapy, numerical evaluation, 2100
- gamma radiation, scintillation counting, spectrometry, 3684
- magnetic field, electromagnetic radiation, dispersion equation, 3416
- radiation counting**, bolometer, temperature, dielectric bolometer, low temperature, 2994
 - chromium 51, erythrocyte cr 51, erythrocyte fe 59, forearm, iron 59, 1060
 - light chopper modulator, pulsed radiation, 2648
- radiation detection**, alpha radiation, radiation, gamma radiation, nuclear radiation, semiconductor detector
 - ge si alloy, 2218
 - gamma radiation, gating circuit, scintigraphy, pulse shape discrimination, integrator, semiconductor detector, 315
 - high energy radiation, nuclear radiation, powder counter, 710
 - multichannel analyzer, 203
 - nuclear instrumentation, nuclear radiation, historical review, 1440
 - neutron radiation, germanium lithium detector, fast neutron flux, 1502
 - nuclear radiation, transfer, steep gradient, 2922
- radiation dose**, computer program, digital computer, medical record, radiotherapy, 471
- radiation energy**, laser, electromagnetic radiation, volume characteristic, 3006
- radiation hazard**, atmosphere, environmental health, fallout, model, rain, nuclear radiation, poland, 2222
 - breathing rate, electromagnetic field, eyelid, movement, restraining device, telemetry, small animals, 3648
 - cell, tissue, ultrasonics, hazard threshold, 742
 - dosimetry, linear energy transfer, model, mean quality factor measurement, 158
 - discharge, eye, infrared radiation, laser, light, retina, ultraviolet radiation, halogen lamp, lesion, lamp, evaluation, 3746
 - environmental health, industrial health service, electromagnetic radiation, 301
 - electromagnetic radiation, energy absorption, 1056
 - eye, infrared radiation, laser, eye protection, 1573
 - electric field, microwave radiation, radiation monitoring, accuracy, 2214
 - eye, industrial medicine, laser, optic filter, radiation protection, filter optimization, 3009
 - electromagnetic radiation, review, 3397
 - gamma radiation, radiation monitoring, radiation protection, roentgen radiation, 1489
 - laser, optic disk, retina, spot diameter estimation, rhesus monkey, 1574
 - microwave radiation, radiation monitoring, electromagnetic radiation, 2678
 - roentgen diffraction, roentgen radiation, safety, 3025
- radiation monitoring**, air pollution, environmental health, ionization meter, radiation, tritium, 3029
 - electric field, microwave radiation, radiation hazard, accuracy, 2214
 - gamma radiation, 5-10 mev, 309
 - gamma radiation, radiation hazard, radiation protection, roentgen radiation, 1489
 - microwave radiation, radiation hazard, electromagnetic radiation, 2678
 - radiation, electromagnetic radiation, thin film technique, 2680
- radiation protection**, accelerator, beta radiation, dosimetry, radiotherapy, roentgen radiation, safety aspects, 156
 - abdomen, fluoroscopy, occupational medicine, radiology, roentgen radiation, thorax, 1147
 - eye, industrial medicine, laser, optic filter, radiation hazard, filter optimization, 3009
 - gas chromatography, herbicide, insecticide agent, electron capture detector, 747
 - gamma radiation, radiation hazard, radiation monitoring, roentgen radiation, 1489
 - industrial health service, microwave radiation, microwave oven, 727
 - public health, roentgen radiation, television, safety act 1968, 19
 - radiodiagnosis, radiotherapy, roentgen department, interlock, 832
- radiation scatter**, polymer, roentgen radiation, biopolymer, 2215
- radiation trauma**, ultraviolet radiation, survey legislation, 725
- radiobiology**, carbon, oxygen, pion radiation, radiotherapy, water, radiation absorption, pi meson, capture site, 950
 - nuclear medicine, restraining device, 3756
- radiodiagnosis**, abdomen, angiography, motion picture, 1200 cases, siemens puck, 3515
 - control system, roentgen apparatus, siemen siregraph, telecontrol, 3517
 - dentistry, maxilla sinus, roentgen apparatus, temporomandibular joint, film cassette, cassette holder, 3138
 - image intensifier, roentgen radiation, 3522
 - radiation protection, radiotherapy, roentgen department, interlock, 832
- radiography**, blood vessel, model, roentgen apparatus, 835
 - computer, face, growth, skull, morphometrics, 1974
 - computer program, dosimetry, radiotherapy, radcomp program, 2816
 - computer program, digital computer, scintigraphy, image processing, cdc 6600, cdc 7600, 3273
 - digital computer, fluoroscopy, holography, image processing, 2419
- radiography**, digital computer, roentgen radiation, image processing, 2795
- radiography**, fluoroscopy, food intake, infants, new device, 424
 - fluoroscopy, image intensifier, luminescence, neutron radiation, radiation, roentgen radiation, modulation transfer function, luminescing screen, 3760
 - gamma radiation, neutron radiation, roentgen radiation, biomedical application, 2694
 - image intensifier, roentgen radiation, modulation transfer function, dose reduction, 2590
 - lung, lung ventilation, metal, parenchymal movement measurement, dog, 2749

- movement, roentgenology, anisotropic subtraction, edge enhancement, 1933
- modulation transfer function, fine detail magnification, 3761
- neutron radiation, scintillator, glass, plastic scintillator, metal foil, 1505
- roentgen apparatus, roentgen radiation, modulation transfer function, image processing, theory, 949
- roentgen radiation, electrostatic copying, 3527
- radioimmunoassay**, computer program, 1165
- radioiodinated human serum albumin**, liver blood flow, sodium iodide i 131, xenon 133, 764
- radioisotope**, 3419
- radioisotope**, 4 aminohippuric acid, iodohippurate sodium i 131, clearance, edetic acid cr 51, 3516
 - analog computer, blood flow, blood volume, computer model, 2726
- radioisotope**, counter, chlorine 36, differential counter, 2699
- radioisotope**, carbon 14, tritium, uridine h 3, liquid chromatography, 3042
- radioisotope**, computer, computer program, nuclear medicine, 3542
 - cell kinetics, computer model, digital computer, laplace law, mathematic model, cell division, transit time, laplace transfer method, 3580
 - drug synthesis, euvar, 3442
 - fluorescence, microsphere, micosphere generator, 2619
 - laser, light absorption, spectrometry, chemical kinetics, 2674
 - mass spectrometry, oxygen 18, integrator, oxygen 16, isotope ratio, 2620
 - nuclear medicine, oxygen 15, probability, statistics, strontium 85, likelihood, mean square error, 2797
 - scintigraphy, scintillation camera, toshiba, review, 3523
- radiology**, abdomen, fluoroscopy, occupational medicine, radiation protection, roentgen radiation, thorax, 1147
- radiology**, angiography, aorta wall, mathematic model, thickness measurement, in vivo, dog, 2277
 - automation, computer, diagnosis, television, 2418
- radiology**, body temperature, heating, infant, 3696
 - computer program, digital computer, gastrointestinal tract, 470
 - computer program, dosimetry, radiotherapy, standardization, 2815
 - computer, nuclear medicine, 3154
 - computer program, information processing, digital computer, hospital administration, 3781
 - computer, radiotherapy, 3782
 - dosimetry, phantom, roentgen radiation, image processing, 1146
 - data processing, medical record, retrieval, system, 1621
 - dentistry, diagnosis, present status, sweden, 3524
 - heart, heart muscle contractile force, heart movement, vibration, water immersion, cat, 3708
 - mouth, tongue, retractor, inflatable retractor, 1592
 - mathematic model, scintiscanning, class of models, 2501
- radiolysis**, photolysis, spectrometry, general technique, 292
- radiometer**, infrared radiation, light, ultraviolet radiation, black body, self calibrating, 596
 - infrared radiation, modulated light, thermography, mechanical modulator, 1478
 - infrared radiation, calibration, 1482
 - spectrometry, automatic recorder, 1462
- radiometry**, light, spectrometry, tungsten, lamp, spectral power distribution, 1456
 - light, temperature, calibration, error, 3677
 - photometry, terminology, 1220
- radiotherapy**, accelerator, beta radiation, dosimetry, radiation protection, roentgen radiation, safety aspects, 156
 - analgesia, bone, metastasis, roentgen apparatus, bone carcinoma, philips rt 255, hard ray therapy, 422
 - beta radiation, dosimetry, roentgen radiation, conization chamber, comparison, essen umea, villejuif umea, 1144
 - bone, cobalt 60, dosimetry, electron spin resonance, gamma radiation, powder, thermoluminescence, bovine, deproteinized bone powder, 1589
 - computer program, digital computer, medical record, radiation dose, 471
 - computer program, cobalt therapy, isodose display, 476
 - computer program, dosimetry, radium, applicator, ernst applicator, dec pdp8, 477
 - cobalt 60, dosimetry, gamma radiation, farmer secondary standard range extension, 831
 - cobalt 60, computer, dosimetry, process control, electronic calculator, 842
 - cancer, computer program, data processing, medical record, 863
 - carbon, oxygen, pion radiation, radiobiology, water, radiation absorption, pi meson, capture site, 950
 - cobalt 60, gamma radiation, cobalt therapy, rotational source, tosheba rcr 120 cl, 1584
 - computer, dosimetry, gamma radiation, sievert integral, recursive formula, 1606
 - californium 252, model, radiotracer, roentgen dose distribution, 2 dim vs. 3 dim model, 1931
 - cobalt therapy, strip filter, 1934
 - cesium 137, cobalt 60, radium, vagina, disposable afterloading colpostat, 1935
 - computer program, depth dose, treatment planning, 1965
 - computer program, dosimetry, radiology, standardization, 2815
 - computer program, dosimetry, radiography, radcomp program, 2816
 - computer, dosimetry, roentgen film, 3165
 - cobalt 60, dosimetry, filter, gamma radiation, lead, uterine cervix, uterine cervix carcinoma, cancer, 3514
 - computer, radiology, 3782
 - digital computer, 479
 - dosimetry, gamma radiation, neutron radiation, thermoluminescence, ca so₄ tm, 834

- depth dose, dosimetry, muscle, neutron radiation, phantom, tissue equivalent, 1145
- dosimetry, radiation absorption, numerical evaluation, 2100
- dosimetry, linear accelerator, roentgen radiation, conization chamber, 3759
- face, prosthesis, docking device, 2792
- linear accelerator, pulse generator, radiation, nuclear radiation, trip out circuit, 1035
- neutron detection, neutron generator, threshold detector, 1143
- radiation protection, radiodiagnosis, roentgen department, interlock, 832
- radiation, teletherapy, 3518
- radiotracer**, blood volume, heart output, double tracer method, 766
 - blood flow, blood volume, model, external counting, 1525
 - blood flow, blood volume, computer program, dye dilution curve, mathematic model, flow measurement third mixing chamber, 1628
 - body temperature, telemetry, implantation, radiotracer, serum albumin i 125, rabbit, 1755
 - circulation, circulation model, dye dilution curve, model, compartment model, chemotracer, 1302
 - californium 252, model, radiotherapy, roentgen dose distribution, 2 dim vs. 3 dim model, 1931
 - data processing, data fitting, chemotracer, curve fitting, exponentials, 1265
 - data processing, multichannel analyzer, 1593
 - gamma radiation, iodine 125, telemetry, implantation, albumin i 125, rabbit, 1497
 - model, tracer, 426
 - proportional counter, tritium, low back ground, 735
- radiotransmitter**, body temperature, radiotracer, telemetry, implantation, serum albumin i 125, rabbit, 1755
- radium**, computer program, dosimetry, radiotherapy, applicator, ernst applicator, dec pdp8, 477
 - cesium 137, cobalt 60, radiotherapy, vagina, disposable afterloading colpostat, 1935
- radium applicator**, gynecology, 425
- rain**, atmosphere, environmental health, fallout, model, radiation hazard, nuclear radiation, poland, 2222
 - measurement device, 697
- ranvier node**, cell membrane steady potential, ph, potassium, ranvier node membrane potential, 2095
 - calcium, cell membrane potential, cell membrane steady potential, potassium, ranvier node membrane, ranvier node membrane potential, 3068
 - model, nerve conduction, nerve fiber membrane resistance, 580
 - nerve conduction, nerve fiber, nerve stimulation, saltatory conduction, lobster, 2764
- ranvier node membrane**, calcium, cell membrane potential, cell membrane steady potential, potassium, ranvier node, ranvier node membrane potential, 3068
- ranvier node membrane potential**, cell membrane steady potential, ph, potassium, ranvier node, 2095
- ranvier node membrane potential**, calcium, cell membrane potential, cell membrane steady potential, potassium, ranvier node, ranvier node membrane, 3068
- rapid eye movement**, eye movement, rem sleep, analyzer, 2762
 - extraocular muscle, model, muscle performance, saccadic eye movement, optimum muscular performance, 3121
- rare earth metal**, moessbauer spectrometer, source, absorber, 3348
- rate meter**, linearization, diode pump integrator, 675
 - nerve cell potential, epochal ratemeter, 387
- raynaud phenomenon**, finger, photoelectric plethysmography, plethysmography, curve analysis by electronic derivation, 3710
- razor blade**, light diffraction, scalpel, 1827
- reaction time**, counter, timer, display system, 2315
 - hearing, loudness, motion sickness, vision, visual illusion, auditory reaction time, 1117
 - kinesiology, reflex, reflex time, objective recording, 2765
 - luminance, vision, stimulus interval, 2483
 - measurement time stick, 796
 - statistics, task performance, psychophysics, forced choice experiment, 1666
 - temporal stimuli pattern, 786
- readiness potential**, brain steady potential, instrumental conditioning, skin resistance, push button construction, 797
- reading**, blindness, reading aid, school, electronic reading apparatus, 31 children, 1115
 - large type reading material, 2318
 - mathematic model, tactile reading, 2008
- reading aid**, blindness, visual aid, human factors, design, 811
 - blindness, reading, school, electronic reading apparatus, 31 children, 1115
 - blindness, computer program, digital computer, a.r.t.s., 2776
- reading machine**, blindness, braille, touch, pattern recognition, character recognition, braille output, 404
 - blindness, computer memory, 1572
- recall**, engram, memory, model, nerve cell, 2911
- receptor**, data processing, information theory, nervous system, nerve fiber code, 944
 - model, transducer, 139
 - model, receptor potential, 3620
- receptor potential**, model, receptor, 3620
- reciprocal inhibition**, antagonist muscle, h reflex, muscle, reciprocal innervation, spinal cord, voluntary movement, 1549
- reciprocal innervation**, antagonist muscle, h reflex, muscle, spinal cord, voluntary movement, reciprocal inhibition, 1549
- recognition**, information theory, model, speech, 524
- recorder**, laser, 1362

- photometer, spectrometry, micro spectrometer, 653
- recording**, analog digital converter, computer memory, digital recording, 2542
- recording**, ambulance, breathing rate, sport, heart tape recorder, telemetry, electrocardiography, double channel telemetry, 3328
- recording**, behavior, monitoring, psychiatry, 3531
- recording**, coincidence counting, delayed coincidence curve, 2541
 - cathode ray oscilloscope, thermal printing, 2828
- recording**, fetus heart rate, recorder comparison, 771
 - process control, honeywell vumatik, 2535
 - viscometry, viscosity, automatic recording, zimm crothers viscometer, 2985
 - wheatstone bridge, electric conductance, chemical kinetics, 3568
- recruitment**, motoneuron, motor unit, movement, muscle tone, man, 1724
- rectifier**, operational amplifier, alternating current voltmeter, 967
- rectum**, fluorescence, microscopy, mucosa, fluorescent microscope, 2959
- red nucleus**, entropy, lateral geniculate body, nerve cell potential, reticular formation, stochastic model, markov process, 152
- reflectometry**, blood oxygen, oximetry, oxygen saturation, skin, 114
 - electromagnetic radiation, 10 to 50 mhz, 2685
 - light, ultraviolet radiation, fourier transform, 3019
- reflector**, laser, light, cylindrical reflector, 3007
 - scintigraphy, rectangular detector, 3429
- reflex**, ear drum, middle ear muscle, tensor tympani muscle, acoustic reflex, 2056
 - kinesiology, reaction time, reflex time, objective recording, 2765
 - stimulator, tendon, student laboratory, 2322
- reflex time**, achilles reflex, tendon reflex, 1108
 - kinesiology, reaction time, reflex, objective recording, 2765
- refraction**, accommodation, vision, continuous measurement, 3503
 - eye, growth, visual system, rabbit, 2347
 - infrared radiation, refraction index, sodium chloride, water, 286
 - ophthalmoscopy, refractometry, 2350
- refraction index**, aerosol, infrared radiation, 1512
 - infrared radiation, refraction, sodium chloride, water, 286
 - infrared radiation, light absorption, water, temperature dependence, 723
 - infrared radiation, light transmission, dispersion analysis, 1477
 - light, light absorption, light reflection, slope method, 3012
 - light, light absorption, model, suspension, light reflection, colloid, spherical particle, 3013
 - light, 3439
- refractometry**, ophthalmoscopy, refraction, 2350
- refrigerator**, thermometer, dilution refrigerator, 1429
- regeneration**, carcinogenesis, cybernetics, fertilization, genetics, information, model, 3226
- regression**, model, statistics, misspecification, 2452
 - model, statistics, partial contingency, 3211
 - statistics, feedback system, 528
- reinforcement**, instrumental conditioning, synthetic variable interval schedule, device, 3098
- relaxation**, collagen, tendon, proton magnetic resonance, nuclear magnetic resonance spectrometry, cattle, 3597
- relay**, miniature relay, application, 3195
 - semiconductor, application, review, 7
 - thyristor, application, 1222
- rem sleep**, circadian rhythm, delta rhythm, electroencephalography, sleep, damped rhythm, 2086
 - computer model, electroencephalography, model, sleep, model vs rat, 3484
 - computer, electroencephalography, electromyography, hybrid computer, sleep, 3562
 - eye movement, muscle tone, newborn, 396
 - eye movement, rapid eye movement, analyzer, 2762
- renin**, aldosterone, body water, cardiovascular system, computer model, henle loop, kidney tubule, mathematic model, model, sodium, vasopressin, kidney proximal convoluted tubule, 2756
- replica plating**, scanning electron microscopy, 985
- residual capacity**, forced expiratory volume, helium, measurement, calculation, 3477
- resistance**, active filter, frequency variable resistance, 2533
 - standard, nbs standard, 1225
- resistance capacitance active filter**, transient response, electric filter, analysis, 621
- resistance capacitance generator**, generator, wien robinson bridge, 198
- resistance meter**, tera ohm meter, 629
- resistance thermometer**, alternating current, direct current, germanium, thermometer, cryogenics, 3384
 - semiconductor, thermometer, 2623
 - thermistor, thermometer, high linearity, 693
 - thermometer, calibration, u 90k, 2983
- resistor**, reliability, 13
 - thin film resistor, reliability, 12
- resonator**, laser, cylindrical resonator, 2656
 - ultrasonics, sound absorption, sound velocity, liquid, 745
- respiration**, air flow, exercise, telemetry, flow measurement, 1758
 - artery pulse, monitoring, 2379

- artificial ventilation, blood flow, erythrocyte, gas embolism, oxygenation, rheology, sound, gas bubble, 3602
- air flow, balloon, blood flow, bubble, capillary, lung alveolus, mathematic model, membrane, switch, nonlinear system, 3612
- respiration**, artificial ventilation, 62 patients, 3715
- respiration**, brain perfusion, carbon dioxide, carbon dioxide tension, cerebrospinal fluid, medulla oblongata, model, respiration control, 780
 - body temperature, diver, heart rate, telemetry, transmitter, ultrasonics, multichannel system, 1772
 - blood pressure, body temperature, electrocardiography, heart disease, phonocardiography, telemetry, neurotransmitter, multichannel system, 3330
 - computer, exercise test, gas exchange, lung ventilation, metabolism, breath by breath analysis, 1979
 - digital computer, spirometry, digital read out, life support medical systems corp., 3189
 - digital computer, lung disease, spirometry, lung function, data processing, 3561
 - exercise, oxygen tension, telemetry, 1759
 - exercise, oxygen consumption, telemetry, 1760
 - esophagus peristalsis, esophagus pressure, tantalum, peristalsis, cat, tantalum wires, manometry, 1857
 - fourth brain ventricle, respiration center, respiration motoneuron, brain depth stimulation, cat, 3725
 - intracranial pressure, strain gauge transducer, long term measurement, 3489
 - lung, lung alveolus, lung diffusion, transport equation, boundary condition, 2299
- respiration center**, fourth brain ventricle, respiration, respiration motoneuron, brain depth stimulation, cat, 3725
- respiration control**, brain perfusion, carbon dioxide, carbon dioxide tension, cerebrospinal fluid, medulla oblongata, model, respiration, 780
- respiration motoneuron**, fourth brain ventricle, respiration, respiration center, brain depth stimulation, cat, 3725
- respiratory tract**, breathing mechanics, frequency analysis, lung model, 3 to 70 cps, 337
- respiratory tract resistance**, airway resistance, lung compliance, lung resistance, measurement method, 3476
- respirometry**, lung ventilation, lung function, remote transmission, 3076
 - spirometry, lung function, large animals, 2295
- responsibility**, hazard, medical instrumentation, 3563
- rest**, computer, electrocardiography, exercise, exercise test, 1206
- restraining device**, 1733
 - angiography, eye fundus photography, bite, 2349
 - brain depth recording, clamp, electrode implantation, head, stereotaxic implantation, rat, 1552
 - blood sampling, heart, heart puncture, bleeding, collapsible device, rabbit, 3457
 - breathing rate, electromagnetic field, eyelid, movement, radiation hazard, telemetry, small animals, 3648
 - chair, monkey, 2717
 - face, skull, nonhuman primates, craniofacial research, 2507
 - immobilization, technetium 99m, scintiscanning, clinical use, 3758
 - metabolic studies, monkey, 2242
 - nuclear medicine, radiobiology, 3756
 - rabbit, 2110
 - stereotaxic device, animals, 1901
- resuscitation**, monitoring, phantom, electronic evaluation system, 365
- reticular formation**, entropy, lateral geniculate body, nerve cell potential, red nucleus, stochastic model, markov process, 152
 - model, nerve cell network, poker chip model, theory, 133
- retina**, accelerator, atmospheric radioactivity, cell nucleus, nitrogen, vision, 1118
 - binocular vision, evoked cortical response, evoked visual response, retina interaction, dioptic vs dichoptic stimulation, 2321
 - choroid, light, mathematic model, temperature, 549
 - color vision, light absorption, photoreceptor, retina cone, visual pigment, anomalous dispersion, 565
 - choroid, temperature, sun, solar observation, 1124
 - convergence, stereoscopic vision, vision, visual field, asymmetric convergence, frame of reference, 1690
 - dark adaptation, electroretinography, frequency analysis, light adaptation, oscillatory potentials, light intensity, man, 3615
 - discharge, eye, infrared radiation, laser, light, radiation hazard, ultraviolet radiation, halogen lamp, lesion, lamp, evaluation, 3746
 - eye, light, mathematic model, temperature, 819
 - electroretinography, retina bipolar ganglion cell, movement detection, lateral inhibition, frog, 1575
 - eye, retina image, modulation transfer function, approximation, 1923
 - extrafoveal vision, retina fovea, vision, 28 observers, 2062
 - eye movement, perception, vision, visual system, man machine interaction, total system evaluation, 2063
 - electroretinography, model, photoreceptor, sodium, cephalopod, 3120
 - electrostimulation, illumination, pulsed illumination, sensitivity changes, 3122
 - light adaptation, vision, contrast, psychophysical retinal organization, 101
 - laser, optic disk, radiation hazard, spot diameter estimation, rhesus monkey, 1574
 - model, nerve cell model, nerve cell network, differentiation in time and space, 787
 - photoconductivity, frog, pigeon, 1700
 - photocoagulation, retina detachment, argon laser, fluorescein angiography, 100 patients, 1821

retina artery, artery flow, capillary flow, doppler effect, rabbit, 1707

retina bipolar ganglion cell, electroretinography, retina, movement detection, lateral inhibition, frog, 1575

retina cone, color vision, light absorption, photoreceptor, retina, visual pigment, anomalous dispersion, 565

- color vision, cornea, spectral sensitivity, vision, monkey, 817
- color blindness, color vision, spectral sensitivity, spectrometry, vision, visual pigment, 2895
- laser, retina rod, argon laser, differential susceptibility, histology, electron microscopy, monkey, 2774

retina detachment, blood clotting, laser, review, 400

- photocoagulation, retina, argon laser, fluorescein angiography, 100 patients, 1821

retina fovea, colorimetry, color vision, model, photometry, spectral sensitivity, heterochromatic additivity, 3252

- electrooculography, recording, 1920
- extrafoveal vision, retina, vision, 28 observers, 2062
- photopic vision, vision, 560

retina ganglion cell, data processing, mathematic model, retina image, vision, optical and neuronal principles, 802

- mathematic model, nerve cell, nerve cell code, thalamus nucleus, visual system, coding distribution, cat 2768

retina ganglion cell potential, autocorrelation, electroretinography, modulated light, 808

retina image, cornea, eye, vision, 2893

- data processing, mathematic model, retina ganglion cell, vision, optical and neuronal principles, 802
- eye, retina, modulation transfer function, approximation, 1923
- light diffraction, movement perception, image processing, image motion, 2065
- model, vision, modulation transfer function, image processing, image distortion, 109
- projection, projection method with visual control, cat, 2343

retina interaction, binocular vision, evoked cortical response, evoked visual response, retina, dioptic vs dichoptic stimulation, 2321

retina pigment degeneration, computer, electroretinography, improved detection method, 3774

retina receptive field, nerve cell, superior colliculus, visual cortex, visual field, cat, 2310

- saccadic eye movement, correction role hypothesis, 3745

retina rod, laser, retina cone, argon laser, differential susceptibility, histology, electron microscopy, monkey, 2774

- photocurrent, retina rod outer segment, rhodopsin, 573

retina rod outer segment, photocurrent, retina rod, rhodopsin, 573

retractor, mouth, radiology, tongue, inflatable retractor, 1592

- mouth, osteotomy, 2381
- orbit, periosteum, surgery, elevator, periosteal elevator, 1947
- self retaining, 848
- vagina speculum, speculum, 1156

retrieval, autopsy, biopsy, data processing, digital computer, epidemiology, nomenclature, pathology, 1197

- algorithm, german nouns, inflection reduction, 1785
- bibliography, computer, documentation, literature, effectivity, 480
- computer, data processing, gas chromatography, 457
- cancer, computer, medical record, metastasis, 1192
- computer, medical record, semantic analysis, 1620
- computer, data processing, drug toxicity, toxicology, 1958
- data processing, literature, golem siemens, 482
- data processing, medical record, radiology, system, 1621

retrieval system, computer, heart tape recorder, portable, 2818

- character, digital computer, display system, chinese character, 3555
- digital computer, medical record, data bank, design, 3547

retrograde amnesia, amnesia, brain, memory, aspects, 790

retroperitoneal pneumography, pneumography, device, 371

reynold number, artery, artery flow, artery model, birefringence, tube, flow, arterial branching, 119

rhabdomere, dark adaptation, light adaptation, optics, cockroach, 1697

- light absorption, photoreceptor, bee, 408

rheology, artificial ventilation, blood flow, erythrocyte, gas embolism, oxygenation, respiration, sound, gas bubble, 3602

- blood, blood viscosity, reindeer, 759
- blood, blood volume, dextran, plasma, sodium chloride, viscosity, in vivo, dog, 1523
- blood pressure, electrocardiography, metallurgy, occupational medicine, telemetry, 1769
- blood, heart infarction, plasma, thrombocyte aggregation, viscosity, shear stress, 1863
- bone, long bone, bending load, experimental study, 2038
- blood, heart output, impedance, output determination, dog, 2272
- blood, erythrocyte, mathematic model, shear stress, shear rates, wide range, 3055
- blood flow, lung, subclavian artery, 3461
- blood flow, electrocardiography, heart rate, telemetry, thorax, 3656
- monitoring, pneumography, lung function, design, 377

rhodium, electrode, electroencephalography, gold, iridium, platinum, metal, palladium, comparison, 392

rhodopsin, photocurrent, retina rod, retina rod outer segment, 573

rib, breathing mechanics, computer, thorax, 872

ribonuclease, cell, nucleotide, plasmalemma, protein, yeast, cooperative conformational membrane rearrangement, yeast, 2462

- deoxycorticosterone, estradiol, hyperpolarization, meractinomycin, muscle denervation,

muscle fiber membrane, muscle fiber membrane potential, protein synthesis, rat, 3046

ribonucleic acid, brain, deoxyribonucleic acid, nerve cell,
 -electron microscopy, intact cell preparation, newborn rat, 3093
 -cytoplasm, electrostimulation, glia cell, nerve cell, nerve fiber, lysine h 3, tritium uridine, incorporation, tritonia, 1558
 -calcium, magnesium, metabolism, nerve cell, potassium, sodium, uridine h 3, mollusc, 2718
 -computer, pairing schemes, 2805

ribonucleic acid synthesis, genetics, metabolism, model, protein synthesis, thermodynamics, theory, 2052

ribosome, hydrostatic pressure, leucine, phenylalanine, protein synthesis, polyuridylic acid, 1241

right heart, femoral vein, heart catheterization, lung wedge pressure, percutaneous catheterization, 1097

right heart ventricle pressure, blood pressure, circadian rhythm, electrocardiography, telemetry, implantation, left heart ventricle pressure, implantable, monkey, 1098

roentgen analysis, cytochrome c, lipid membrane, protein, membrane structure, 2860

roentgen apparatus, analgesia, bone, metastasis, radiotherapy, bone carcinoma, philips rt 255, hard ray therapy, 422
 -blood vessel, model, radiography, 835
 -control system, radiodiagnosis, siemen siregraph, telecontrol, 3517
 -digital computer, fluoroscopy, model, roentgen screen, modulation transfer function, image processing, 833
 -digital computer, roentgen radiation, 3 dimensional location, 1618
 -dentistry, maxilla sinus, radiodiagnosis, temporomandibular joint, film cassette, cassette holder, 3138
 -diagnosis, endoscopy, roentgen radiation, stomach, 3521
 -laser, roentgen generator, roentgenography, neodymium glass, 428
 -modulation transfer function, focal spot with a twin peaked intensity distribution, 3529
 -radiography, roentgen radiation, modulation transfer function, image processing, theory, 949

roentgen camera, gamma radiation, roentgen radiation, scintillation camera, image processing, multiple pinhole camera, 1058

roentgen department, roentgen film, processing, no dark room, 432
 -radiation protection, radiodiagnosis, radiotherapy, interlock, 832

roentgen deflection, fluorescence, target chamber, 1486

roentgen detection, calcification, tendon, ultrastructure, chicken, x ray diffraction, 414
 -glutaraldehyde, muscle contraction, muscle fiber, myosin filament, structural changes, 2784
 -glycerol, muscle, muscle fiber, myosin, rabbit, 3130
 -myelin, myelin membrane, structure, 1551
 -protein, roentgen radiation, 746
 -radiation hazard, roentgen radiation, safety, 3025
 -smooth muscle contraction, sliding filament theory, mollusc, 1927

roentgen dose distribution, computer, dosimetry, gamma radiation, roentgen radiation, 1616
 -californium 252, model, radiotherapy, radiotracer, 2 dim vs. 3 dim model, 1931

roentgen equipment, electrocardiography, electroencephalography, hospital, interference suppression, magnetic field, elevator, 2238

roentgen film, computer, dosimetry, radiotherapy, 3165
 -medifort r, 303
 -roentgen department, processing, no dark room, 432

roentgen generator, laser, roentgen apparatus, roentgenography, neodymium glass, 428
 -monochromator, roentgen radiation, 729

roentgenography, angiography, digital computer, heart performance, image intensifier, television, biplane roentgenography, 1207
 -blood pressure, data processing, densitometry, fluoroscopy, heart catheterization, television, display system, patient identification, 2 d representation, 1101
 -blood flow, densitometry, dye dilution curve, image intensifier, television, flexible window size, diaphragm, 1588
 -holography, roentgen radiation, image processing, 3d picture, 1936
 -laser, roentgen apparatus, roentgen generator, neodymium glass, 428

roentgenology, artificial heart pacemaker, battery, capacity estimation, 1086
 -computer, diagnosis, lung cancer, thorax radiography, case series, diagnosis, 466
 -head, stereotaxic device, stereotaxic implantation, head horizontal placing, 1112
 -movement, radiography, anisotropic subtraction, edge enhancement, 1933

roentgen picture, television, modulation transfer function, 433
 -television, storage system, 2794

roentgen radiation, accelerator, beta radiation, dosimetry, radiation protection, radiotherapy, safety aspects, 156
 -aluminum, band pass filter, chlorine, magnesium, titanium, 1 5 kev, 1059
 -abdomen, fluoroscopy, occupational medicine, radiation protection, radiology, thorax, 1147
 -air pollution, fluorescence, fluorine, spectrometry, uranium, siemens srs, 1511
 -alpha radiation, environmental health, fluorescence, chemotracer, 3044
 -beta radiation, dosimetry, radiotherapy, conization chamber, comparison, essen umea, villejuif umea, 1144
 -cobalt 60, gamma radiation, spectrometry, scintillator, calibration scheme, 728
 -calorimetry, dosimetry, combination calorimeter, 730
 -calorimetry, dosimetry, depth dose calorimeter, flash roentgen radiation, 837
 -chromosome, dosimetry, lymphocyte, chromosomal aberration, 1081
 -computer, dosimetry, gamma radiation, roentgen dose distribution, 1616

- dosimetry, gamma radiation, linear energy transfer, lithium fluoride dosimeter, model, thermoluminescence, non linearity, 304
- diagnosis, stomach, television, gyroscopic roentgen apparatus, 838
- dosimetry, phantom, radiology, image processing, 1146
- digital computer, roentgen apparatus, 3 dimensional location, 1618
- digital computer, radiography, image processing, 2795
- digital computer, dosimetry, 3176
- diagnosis, image intensifier, 3520
- diagnosis, endoscopy, roentgen apparatus, stomach, 3521
- dosimetry, linear accelerator, radiotherapy, conization chamber, 3759
- fluorescence, image intensifier, review, 1057
- fluorescence, monochromator, high intensity radiation, 1485
- fluoroscopy, image intensifier, luminescence, neutron radiation, radiation, radiography, modulation transfer function, luminescing screen, 3760
- gamma radiation, roentgen camera, scintillation camera, image processing, multiple pinhole camera, 1058
- gamma radiation, radiation hazard, radiation monitoring, radiation protection, 1489
- gamma radiation, neutron radiation, radiography, biomedical application, 2694
- holography, roentgenography, image processing, 3d picture, 1936
- image intensifier, radiography, modulation transfer function, dose reduction, 2590
- image intensifier, television, modulation transfer function, 2791
- image intensifier, television, vidicon, camera tube, modulation transfer function, plumbicon, 2796
- image intensifier, radiodiagnosis, 3522
- light absorption, model, spectrometry, magnetism, infrared absorption, analysis, 2662
- monochromator, roentgen generator, 729
- neutron radiation, seed, arabidopsis thaliana, 155
- public health, radiation protection, television, safety act 1968, 19
- protein, roentgen diffraction, 746
- performance measurement, 1488
- polymer, radiation scatter, biopolymer, 2215
- photoresistor, cawo4, 2216
- proportional counter, gas amplification, 3024
- pulse height analysis, semiconductor detector, si(li), 3424
- radiography, roentgen apparatus, modulation transfer function, image processing, theory, 949
- radiation hazard, roentgen diffraction, safety, 3025
- radiography, electrostatic copying, 3527
- semiconductor detector, silicon, room temperature application, 1487
- roentgen scattering**, cell membrane, factor analysis, membrane, light scattering, 533
- roentgen screen**, digital computer, fluoroscopy, model, roentgen apparatus, modulation transfer function, image processing, 833
- roller pump**, infusion, pump, exchange blood transfusion, 344
- rotation**, depth perception, model, vision, visual illusion, 1563
- rowing**, biomechanics, ergometry, muscle, sport, telemetry, 1764
- rubber**, anesthetic equipment, cyclopropane, ether, halothane, methoxyflurane, drug absorption, 372
- running**, biomechanics, treadmill, walking, overground versus treadmill running, 16 runners, 3236
- r wave**, electrocardiography, model, point process, 2081

- saccadic eye movement**, eye movement, oculomotor system, linear system, linear system studies, 544
 - eye movement, voluntary movement, analysis, 809
 - extraocular muscle, model, muscle performance, rapid eye movement, optimum muscular performance, 3121
 - retina receptive field, correction role hypothesis, 3745
- safety**, chromosome, fetus monitoring, ultrasonics, 438
 - cancer, dermatology, laser, book, 1824
 - electric accident, electrocardiography, interference reduction, monitoring, test program, safety, interference, 2378
 - medical instrumentation, standards, necessity, costs, 952
 - medical instrumentation, standard, faults, 1227
 - radiation hazard, roentgen diffraction, roentgen radiation, 3025
- saliva**, acetylcholine, model, potassium, saliva gland, salivation, acinar cell, 2721
 - fluoride, telemetry, tooth contact, tooth plaque, 2723
- saliva gland**, acetylcholine, model, potassium, saliva, salivation, acinar cell, 2721
 - cannula, saliva gland duct, chronic cannulation, sheep, 341
 - scintigraphy, technetium 99m, 3450
- saliva gland duct**, cannula, saliva gland, chronic cannulation, sheep, 341
- salivation**, acetylcholine, model, potassium, saliva, saliva gland, acinar cell, 2721
- salmonella typhimurium**, computer, epidemiology, salmonellosis, epidemiology, computer analysis, france, 3149
- salmonellosis**, computer, epidemiology, salmonella typhimurium, epidemiology, computer analysis, france, 3149
- saltatory conduction**, nerve conduction, nerve fiber, nerve stimulation, ranvier node, lobster, 2764

sampler, counter, nuclear radiation, asynchronous sampler, 1747

sampling, averaging, digital computer, interpolation, analog signal reconstruction, 674

- bacterium, population density, statistics, water system, negative binomial distribution, 2011
- digital filtering, random sampling, 682
- digital filtering, sample rate reduction, 1000
- data processing, image processing, data compression, 2 dimensional image, 1587
- frequency analysis, signal processing, 36
- information, shannon theorem, explication, 3212
- signal processing, zero interval distribution, 517
- signal processing, electric filter, signal reconstruction, 1252
- strip chart recorder, sampling, design, 2130

sampling, sampling, strip chart recorder, design, 2130

sampling, statistics, inverse sampling, 2448

- television, picture phone, band width reduction, 1391

sampling amplifier, electron spin resonance, photolysis, spectrometry, 1050

saphenous vein, aorta flow, coronary artery flow, femoral artery flow, potential error sources, 3062

sarcolemma, elasticity, model, muscle fiber, semitendinous muscle, anisotropic elastic properties, frog, 2359

sarcomere, adenosine triphosphatase, glycerol, muscle fiber, muscle relaxation, rabbit, 545

- acetylcholine, muscle contraction, muscle fiber, muscle spasm, slow muscle, ultrastructure, frog, 1673
- heart muscle hypertrophy, heart ventricle pressure, heart ventricle wall, mathematic model, 1095

sartorius muscle, magnetic field, muscle, muscle excitability, frog, 1129

- spectrophotometry, flow measurement, dog, 2282

saw, osteotomy, stethoscope, gigli saw guide, 1943

scalpel, light diffraction, razor blade, 1827

scanning, cephalometry, echography, fetus, 741

- echoencephalography, method, dog, 2234

scanning electron microscopy, amplifier, semiconductor, current amplifier, 230

- cell, sputter ion etching, hydrogen, helium, argon and oxygen, mammalian and avian cells, 3345
- contrast, contrast measurement, 3352
- dust, microscopy, 656
- fiberscope, scintillator, 2577
- replica plating, 985
- specimen, specimen preparation, 670
- secondary electron detector, 3262
- vacuum, ultra high vacuum, 672
- voltmeter, electron probe, acceleration potential, 706

scanning microscopy, image processing, focusing, 1822

scattering, photometer, light scattering, multiple diffusion, 1818

schizophrenia, behavior, computer, complex transitional behavior matrices, 1210

- digital computer, electroencephalography, sleep, all night sleep, 1963

schmitt trigger, 678

- driver, 193
- multivibrator, high speed, 217

school, blindness, reading, reading aid, electronic reading apparatus, 31 children, 1115

scintigraphy, anthracene, fluorescence, scintillator, photoeffect, fluorescence quenching, 2220

- bone, computer, lung, pancreas, scintillation camera, 1201
- brain blood flow, 3460
- cobalt 60, gamma radiation, photomultiplier, leading edge, 313
- color, computer, digital computer, 429
- computer, digital computer, liver, television, 483
- collimator, strontium 87m, multislit collimator, 830
- computer, computer program, program packing, 866
- computer model, data processing, 867
- computer, gamma radiation, scintillation camera, scintillation counting, count rate loss correction, 1149
- computer, digital computer, paper tape, scintillation camera, picker 500, 1150
- computer, coronary artery flow, scintiscanning, dog, 1627
- computer, skeleton, spine, statistics, 42 scintigram, 2389
- collimator, multiple collimator system, 2697
- computer program, digital computer, radiography, image processing, cdc 6600, cdc 7600, 3273
- collimator, gamma radiation, scintillation camera, technetium 99m, modulation transfer function, 3344
- computer, methods, 3776
- data processing, flowmeter, display system, image processing, ratemeter control, 3139
- gamma radiation, gating circuit, radiation detection, pulse shape discrimination, integrator, semiconductor detector, 315
- liver, liver injury, phantom, siemens scintimat, 3525
- motion picture, 3661
- pulse shape discrimination, scintillator, efficiency, 312
- reflector, rectangular detector, 3429
- radioisotope, scintillation camera, toshiba, review, 3523
- scintillation camera, time marker, dynacamera, time reference markers, 1022
- scintillation camera, uniformity, field element, 1586
- saliva gland, technetium 99m, 3450

scintillation, computer, data processing, scintillation camera, 1951

scintillation camera, bone, computer, lung, pancreas, scintigraphy, 1201

- brain, brain tumor, scintiscanning, nuclear enterprise camera, case series, 2370
- computer, computer memory, maximum frame rate analysis, 235
- computer model, gamma radiation, scintillation counting, conization chamber, performance test, 1148
- computer, gamma radiation, scintigraphy, scintillation counting, count rate loss correction, 1149
- computer, digital computer, paper tape, scintigraphy, picker 500, 1150
- computer, data processing, scintillation, 1951
- collimator, gamma radiation, scintigraphy, technetium 99m, modulation transfer function, 3344
- digital computer, serum albumin tc 99m, left heart ventricle ejection, calculation, 362
- gamma radiation, roentgen camera, roentgen radiation, image processing, multiple pinhole camera, 1058
- implementation evaluation, 1501
- method, 1500
- radioisotope, scintigraphy, toshiba, review, 3523
- scintigraphy, time marker, dynacamera, time reference markers, 1022
- scintigraphy, uniformity, field element, 1586

scintillation counting, alpha radiation, radiation, scintillator, liquid scintillator, pulse contour records, 2701

- ampulla, gamma radiation, source displacement, 3030
- brems radiation, gamma radiation, monoenergetic radiation, response, 1495
- battery, xenon 133, heart muscle blood flow, battery powered device, 3467
- computer model, gamma radiation, scintillation camera, conization chamber, performance test, 1148
- computer, gamma radiation, scintigraphy, scintillation camera, count rate loss correction, 1149
- computer, data processing, digital computer, on line computer, nuclear radiation, pdp 15, ibm 360/65, two computer system, 2166
- gamma radiation, response function, 1491
- gamma radiation, heavy particle radiation, scintillator, thin film detector, fabrication, 2199
- gamma radiation, spectrometry, hodoscope spectrometer, 3031
- gamma radiation, spectrometry, radiation absorption, 3684
- helium, model, neutron detection, polyethylene, delay, 2704
- neutron detection, 1065
- nuclear radiation, large scintillation counter, improved resolution, 1838
- neutron detection, neutron radiation, 14 mev, 3035
- photomultiplier, external metal coating, 1451
- proportional counter, large area counter, 1490
- power, proportional counter, gas scintillation, improved resolution, 3026
- radiation, gamma radiation, photomultiplier, pulse shape, 2696

scintillator, anthracene, fluorescence, scintigraphy, photoeffect, fluorescence quenching, 2220

- alpha radiation, radiation, scintillation counting, liquid scintillator, pulse contour records, 2701
- cesium 137, sodium 22, organic scintillator, bias setting, 317
- cobalt 60, gamma radiation, roentgen radiation, spectrometry, calibration scheme, 728
- cosmic radiation, pion radiation, ne 102a, 2230
- carbon dioxide tension, carbon 14, expiration, 3080
- cosmic radiation, nuclear data, $z=12$ to 28, 3432
- dosimetry, neutron radiation, plastic scintillator, array, design, 1-450 mev, 319
- dosimetry, neutron radiation, plastic scintillator, calibration, 739
- fluorescence, ultraviolet radiation, visible emission, 722
- fiberscope, scanning electron microscopy, 2577
- fluorescence, ne 102a, ky (tl), csy (tl), anthracene, 3425
- gamma radiation, loaded scintillator, 314
- gamma radiation, white oil, efficiency, 731
- gamma radiation, alkali halide activated, 733
- gamma radiation, heavy particle radiation, scintillation counting, thin film detector, fabrication, 2199
- gamma radiation, plaster, plastic, plastic scintillator, lead loaded, 2221
- neutron radiation, radiography, glass, plastic scintillator, metal foil, 1505
- neutron radiation, proton, spectrometry, ne 102, ne 228, 2228
- neutron detection, ne 213, efficiency, 2229
- nuclear radiation, csi(na), decay constant, 2997
- pulse shape discrimination, ne 211, 1492
- proton radiation, deuteron radiation, ne 230/231, response, 1813
- scintigraphy, pulse shape discrimination, efficiency, 312

scintiscanning, bone, computer, data processing, fluorine 18, 307

- brain, brain tumor, scintillation camera, nuclear enterprise camera, case series, 2370
- computer, diagnosis, nuclear medicine, 1161
- computer, coronary artery flow, scintigraphy, dog, 1627
- digital computer, printer, display system, 1966
- immobilization, restraining device, technetium 99m, clinical use, 3758
- mathematic model, radiology, class of models, 2501
- variable baseline scanner, 310

scissors, cornea transplantation, 3537

scoliosis, mathematic model, spine, 74

scotopic vision, darkness, television, thermography, survey, 1121

- model, photoreceptor, vision, 2 dimensional image receptor, 1293

screening, blood pressure, diastolic blood pressure, electrocardiography, public health, systolic blood pressure, cuff method, automation, 124
seal, cryogenics, vacuum sealing, 3198
sea pollution, digital computer, model, sound, temperature, 3385
 -noise, hydrophone, calibration, 1641
seatbelt, erector spinae muscle, impact, mathematic model, spine, muscle influence, man, 3512
seawater, dialysis, sodium chloride, inductive method, 381
secretin, cholecystokinin, computer, diagnosis, pancreas, pancreas carcinoma, pancreas disease, pancreatitis, pancreozymin, 84 patients, 29 normals, 2398
seed, neutron radiation, roentgen radiation, arabidopsis thaliana, 155
seizure, nerve cell model, partial epilepsy, nerve cell network, 939
selective amplifier, active filter, band pass filter, design, 171
 -active filter, band pass filter, low q, 604
 -active filter, amplifier, band pass filter, tunable, variable q, 611
 -active filter, twin t filter, 616
 -active filter, adjustable, tunable frequency, 964
 -active filter, voltage controlled, linearization, 1360
 -active filter, factor, resonant frequency, amplifier gain, 2115
 -amplifier, sweep frequency generator, sweep rate, monogram, 2526
 -active filter, low pass filter, operational amplifier, philips tca 220, design, 3283
 -band pass filter, dielectric resonator, response curve 9-ghz, 2528
 -band pass filter, notch filter, 2935
 -high q, design, 1740
 -phase detection, wheatstone bridge, automatic tuning, 2520
 -signal detection, fourier transform, 966
 -telemetry, electric filter, ceramic filter, 10 mhz, 178
selective arteriography, angiography, carotid arteriography, catheter, 3757
selenium, amplifier, photometry, photo cell, trans impedance circuit, 614
semicircular canal, caloric vestibular test, hearing, magnetic field, microwave radiation, vestibular system 3126
semiconductor, amplifier, scanning electron microscopy, current amplifier, 230
 -amorphous selenium, 2832
 -amplifier, signal noise ratio, measurement from 30 to 300 k, 3291
 -amplifier, low supply voltage, complementary circuit, 3630
 -blood pressure, pressure transducer, strain gauge transducer, miniature pressure transducer, 3388
 -cytochrome, enzyme kinetics, model, oxidation, protein, solid protein, theory, 891
 -computer memory, switch, amorphous semiconductor, 2834
 -circulation, infrared radiation, photoelectric plethysmography, photoresistor, plethysmography, skin, skin blood flow, signal noise ratio, 3043
 -conductivity, model, tissue, nonlinear system, theory, 3618
 -diode, temperature transducer, thermometer, thermostat, 257
 -diode, photosensitizer, photo cell, direction angle, error, 494
 -diode, model, large signal model, 1218
 -diode, pressure transducer, strain gauge transducer, ultraminiature, 2515
 -electronic switch, switch, thyristor, power switch, merits, 955
 -fet semiconductor, model, 3202
 -generator, analysis, 2560
 -history, 3192
 -history, 3193
 -integrated circuit, review, history, 2439
 -intracranial pressure, monitoring, pressure transducer, strain gauge transducer, technical note, 2761
 -light detection, stimulus isolator, 2438
 -light modulator, modulated light, cdte crystal, 2668
 -model, bipolar transistor, 3203
 -pulse height analysis, fast, 189
 -power supply, switch, 589
 -power supply, dc, transformerless, 637
 -preamplifier, low noise, 2531
 -relay, application, review, 7
 -resistance thermometer, thermometer, 2623
 -switch, rca cd 4016 a, 1749
 -switch, mosfet switch, nonvolt level, 2950
 -switch, high speed, 3201
 -switch, design, 3316
 -television camera, charge coupling, 2586
 -vbe compensation, 253
 -vidicon, cathode, silicon cold cathode, 3663
semiconductor detector, alpha radiation, gamma radiation, cd te resistance, 1836
 -alpha radiation, radiation, gamma radiation, radiation detection, nuclear radiation, ge si alloy, 2218
 -alpha radiation, spectrometry, array detector, position sensitive, 2224
 -air pollution, computer, fluorescence, spectrometry, minicomputer, radiotracer, 2695
 -alpha radiation, digital computer, gamma radiation, spectrometry, 3027
 -alpha radiation, gamma radiation, cdte, 3028

- beta detection, beta radiation, dosimetry, gamma detection, gamma radiation, li si, implantable dosimeter, 316
- beta detection, beta radiation, in vivo/vitro measurement, 1138
- beta radiation, silicon surface barrier, 1498
- counter, silicon, multi counter system, 708
- cobalt 60, germanium, large volume detector, 1494
- coincidence counting, gamma radiation, timer, ge hi, 2219
- cesium 137, cobalt 57, cobalt 60, gamma radiation, manganese 54, mercury 203, sodium 22, tantalum 182, americium 241, yttrium 88, calibration, 2693
- gamma radiation, gating circuit, radiation detection, scintigraphy, pulse shape discrimination, integrator, 315
- gamma radiation, time measurement, ge li, timing system, 1021
- gamma detection, gamma radiation, efficiency, local variation, ge li, 1062
- gamma radiation, spectrometry, ge hi, coincidence spectrometer, 1493
- gamma radiation, coaxial ge hi detector, disc source, efficiency, 1839
- gamma radiation, timer, si detector, ge (li) detector, 2698
- gamma radiation, efficiency, ge li, 0.04 to 11 mev, 3427
- heavy particle radiation, over bias conduction, 1038
- nuclear radiation, charged particle detector, 1439
- nuclear radiation, cryostate, ge(hi), 2998
- pulse height analysis, roentgen radiation, si(li), 3424
- roentgen radiation, silicon, room temperature application, 1487
- semiconductor diode**, power supply, silicone, high voltage supply, 1372
 - temperature transducer, thermometer, 1019
- semitendinous muscle**, elasticity, model, muscle fiber, sarcolemma, anisotropic elastic properties, frog, 2359
- sensometer**, light modulator, modulated light, non selective modulation, 1443
 - photographic film, color film, soviet instruments, 1446
- sensory motor cortex**, nerve cell potential, nerve cell network, logic operation, cat, 942
- sensory nerve**, electrostimulation, latent period, median nerve, nerve potential, stimulation artifact, wrist, 948
 - muscle, muscle spindle, muscle tone, nerve potential, frog, 917
- septum pellucidum**, brain, brain fornix, hippocampus, knife, transection method, spring loaded carrier, rat 3490
- serine**, calcium, hodgekin huxley equation, nerve cell, nerve conduction, nerve fiber membrane, phosphatidylserine, potassium, sodium, excitable membrane, 2498
- serology**, computer, data processing, punch card, 3182
- serum**, blood urea nitrogen, computer, uric acid, relationship, 3769
 - computer, creatine phosphokinase, data processing, laboratory, lactate dehydrogenase, serum aspartate aminotransferase, system analysis, enzyme, 1172
 - capillary, elasticity, viscosity, measurement, 1672
- serum albumin i 125**, body temperature, radiotracer, telemetry, implantation, radiotransmitter, rabbit, 1755
- serum albumin tc 99m**, digital computer, scintillation camera, left heart ventricle ejection, calculation, 362
- serum aspartate aminotransferase**, computer, creatine phosphokinase, data processing, laboratory, lactate dehydrogenase, serum, system analysis, enzyme, 1172
- serum colloid osmotic pressure**, plasma, colloid osmotic pressure, osmometer, improvement, 346
- servocircuit**, model, muscle, muscle spindle, feedback system, 2034
- servocircuit**, potentiometer, feedback system, performance, 6
- servo circuit**, resonance compensation, 1336
- sex**, brain, age, skull, calculation measurements, 1909
 - mathematic model, why only 2 sexes, 510
 - skin, tonometry, quantification, 3755
- sexual behavior**, computer, analysis, male rat, 490
- shear stress**, aorta, aorta flow, mathematic model, pulsatile flow, 1303
 - atherosclerosis, computer, graph, pathogenesis, 1975
 - aorta flow, blood flow, finite element analysis, 2069
 - blood vessel, elasticity, mathematic model, orthotropic oval vessel, 1304
 - bone, dentin, enamel, tooth, 1671
 - blood, heart infarction, plasma, rheology, thrombocyte aggregation, viscosity, 1863
 - blood, erythrocyte, mathematic model, rheology, shear rates, wide range, 3055
 - bone, tibia, transducer, implantation, monkey, 3237
 - cartilage, joint, mathematic model, 82
 - deoxyribonucleic acid, erythrocyte, sound, cell disruption, 1695
 - erythrocyte, glutaraldehyde, 761
 - flow model, model, square wall obstacle, 130
- shift system**, computer memory, digital computer, degree of complexity, 2165
 - computer memory, random data input, 3637
- ship**, deceleration, movement, 1281
- shoe**, gait, locomotion, walking, 1580
- short term memory**, hearing, memory, speech, pattern recognition, 1683
- shoulder**, joint, goniometry, measurement equipment, 2353
- shutter**, camera, dynamic characteristic, 651
 - laser, shutter test, 288

- laser, crystal shutter, 290
- light chopper modulator, kdp crystal, electro optic shutter, 713
- sibling**, population dynamics, age, branching process, sibling correlation, 3217
- sigmoid**, cecum, colon, fiberoscope, proctosigmoidoscopy, plastic tube, straightening tube, 2249
- signal**, 43
 - digital filtering, optimization, 2612
 - frequency discrimination, hearing, information, 2880
 - telemetry, relation, power, frequency, bandwidth, 2565
- signal detection**, acoustic nerve, auditory masking, cochlea nucleus, hearing, superior olive,
 - sound perception, central auditory masking, theory, 921
 - amplitude estimation, 1251
 - binaural hearing, hearing, phase discrimination, 95
 - electroencephalography, speech, overlapping wavelet, 1263
 - hemodilution, continuous signal, 898
 - information theory, bayes estimation, 45
 - information theory, double stochastic poisson process, 46
 - information theory, light detection, low level, 1288
 - information theory, signal noise ratio, electric filter, multichannel analyzer, 1658
 - light chopper modulator, light detection, pulse shape, non uniform noise, 884
 - out put gaussianity, 48
 - pulse shape discrimination, time correlation, 34
 - phase detection, generalised technique, 526
 - piezoelectric transducer, sound detection, distributed sources, 1823
 - selective amplifier, fourier transform, 966
 - statistics, multiple hypothesis estimation, 1248
 - statistics, wilcoxon test, 1253
 - signal noise ratio, image processing, nonadditive noise, 2021
 - telemetry, pulsed sine wave, optimal detection, 899
- signal noise ratio**, averaging, electroanesthesia, electroretinography, evoked response, on line circuit, 398
 - auditory masking, binaural hearing, hearing, phase discrimination, 2057
 - amplifier, nerve potential, human, 2093
 - amplifier, semiconductor, measurement from 30 to 300 k, 3291
 - averaging, electroencephalography, improvement possibilities, 3485
 - computer, preamplifier, television camera, 233
 - circulation, infrared radiation, photoelectric plethysmography, photoresistor, plethysmography, semiconductor, skin, skin blood flow, 3043
 - computer, electroencephalography, zero cross analysis, 3779
 - digital computer, on line computer, analog vs digital multiplexer, 1412
 - density, process control, impulse response, 2849
 - frequency discrimination, hearing, signal compression, 2481
 - hearing, speech, vowel, consonant, vowel, consonant, 2479
 - infrared radiation, thermography, integrator, 663
 - image intensifier, night vision, 718
 - infrared radiation, thermography, electric filter, modulation noise, 986
 - information theory, signal detection, electric filter, multichannel analyzer, 1658
 - interference suppression, multivibrator, electric interference, noise immunity, review, 2544
 - infrared radiation, infrared spectrometry, nerve conduction, nerve excitability, spectrometry, perkin elmer 521 modification, 3104
 - lock in amplifier, phase detection, analysis, 619
 - noise, intelligibility, constant s/n ratio, 1383
 - operating voltage, 1461
 - operational amplifier, measurement, 2932
 - photomultiplier, statistics, rca 8850, 2672
 - photomultiplier, transfer, modulation transfer function, biasing circuit, 3411
 - stochastic model, pattern recognition, 1661
 - signal detection, image processing, nonadditive noise, 2021
 - television, pattern recognition, movement detection, man machine interaction, 1257
 - vision, visual masking, visual system, critical band width, 563
- signal processing**, auditory masking, hearing, nonlinear system, combination tone, 1286
 - evoked cortical response, evoked visual response, phase detection, electric filter, phase distortion, 2117
 - frequency analysis, sampling, 36
 - hearing, non linear system, combination tone, psychophysics, cubic difference tone, 1287
 - infrared radiation, thermography, derivative thermography, 1141
 - monitoring, electrocardiography, 439
 - sampling, zero interval distribution, 517
 - sampling, electric filter, signal reconstruction, 1252
- silastic**, artificial bladder, urine, experiment, sheep, 2302
 - catheter, parenteral feeding, technique, indications, 3448
 - cornea, cornea transplantation, plastic, cutting, silicone cups, 3765
 - electrode, electromyography, chronic lead, bat, 1132
 - fatigue, finger, joint, prosthesis, fatigue testing, 415
 - heart valve prosthesis, lipid, 1089

- kidney perfusion, kidney preservation, nylon, oleate, plastic, poly(vinyl chloride), tube, organ perfusion, tube choice, rabbit kidney, 3091
- silicon dioxide**, cell, laser, quartz hardening, 291
- silicone**, cathode ray oscilloscope, 2940
 - germanium, infrared radiation, 3404
 - membrane oxygenator, evaluation, 1106
 - power supply, semiconductor diode, high voltage supply, 1372
 - vidicon, television camera, return beam vidicon, 1400
- silver**, copper, electron microscopy, mica, calibration, crystal removing, 2591
- silver nitrate**, burn, protein, pseudomonas aeruginosa, lactate silver, artificial skin, skin dressing, rat, 1985
- singing**, analyzer, sound, singin sant, 3601
- skeleton**, biophysics, bone, electricity, face, morphogenesis, skull, 3209
 - computer, scintigraphy, spine, statistics, 42 scintigram, 2389
 - impact, mathematic model, muscle, system analysis, feedback system, line graph flow graph procedure 2033
- skeleton deformity**, bone, femur, fracture,
 - rabbit femora and ulnae, various mechanical parameters, 5 loading rates, 2868
 - bone, piezoelectricity, bone reconstruction, 3513
 - bone, calcaneus, locomotion, 3592
- skin**, acetylcholine, adrenalin, cell membrane potential, strophanthin, 2,4 dinitrophenol, 1717
 - anthropometry, body, motility test, skinfold, boy, 12-19 years, skin fold measurement, 2032
 - blood oxygen, oximetry, oxygen saturation, reflectometry, 114
 - blood pressure, catheter, connector plug, implantation, 419
 - breast cancer, thermodynamics, thermography, heat transfer, 14 carcinomas, intratumor and cutaneous infrared thermography, 1049
 - burn, artificial skin, rat, dog, 1640
 - blepharoplasty, clamp, cosmetic agent, 1944
 - cell membrane, oscillation, compartment model, feedback system, multi compartment model, unidirectional transport, 909
 - cell membrane, cell membrane permeability, epithelial cell, flow chamber, step experiment, frog, 1667
 - circulation, infrared radiation, photoelectric plethysmography, photoresistor, plethysmography, semiconductor, skin blood flow, signal noise ratio, 3043
 - cold, perception, skin temperature, thermoreceptor, stimulation level and duration, 3136
 - diode, oximetry, 276
 - erythema, ultraviolet radiation, evaluation device, 827
 - electrode impedance, electromyography, surface emg measurement, 2363
 - finger, forearm, impedance, tissue, 1270
 - masking, skin receptor, strong stimulus of a subsequent weak one, 420
 - newborn, oxygen tension, oxygen tension electrode, vasodilatation, 2192
 - pain, thermal stimulation, sensitivity changes, 1313
 - skin conductivity, measurement technique, 936
 - sex, tonometry, quantification, 3755
 - transducer, implantation, transderma, 167
 - tensile strength, different regions of the body, test apparatus, 121 cadavers, 2037
- skin blood flow**, argon, brain blood flow, carbon dioxide, carbon dioxide tension, kidney blood flow, liver blood flow, mass spectrometry, nitrogen, oxygen, oxygen tension, 1531
 - circulation, infrared radiation, photoelectric plethysmography, photoresistor, plethysmography, semiconductor, skin, signal noise ratio, 3043
- skin conductivity**, skin, measurement technique, 936
- skin defect**, electrode, electrode paste, methyl paraben, skin reaction, 8 electrode jellies, 3394
- skinfold**, anthropometry, body, motility test, skin, boy, 12-19 years, skin fold measurement, 2032
 - caliper, ponderase caliper, 2365
- skin permeability**, skin potential, sodium, stochastic model, fluctuation, frog, 1929
- skin potential**, skin permeability, sodium, stochastic model, fluctuation, frog, 1929
- skin receptor**, masking, skin, strong stimulus of a subsequent weak one, 420
- skin resistance**, brain steady potential, instrumental conditioning, readiness potential, push button construction, 797
 - stress, man machine interaction, four electrode method, 272
- skin temperature**, breathing rate, heart rate, lung ventilation, traumatic shock, 1537
 - blood pressure, bradycardia, heart rate, industrial health service, vibration, 694 workers, switzerland, 1868
 - computer, environmental health, heart rate, monitoring, tape recording, data logger, computer compatible output, 486
 - cold stress, computer model, hypothalamus, preoptic area, thermoreceptor, environment temperature, 2 temperature input models, 2875
 - cold, perception, skin, thermoreceptor, stimulation level and duration, 3136
 - thermometer, contact thermometer, 1134
- skull**, brain depth recording, stereotaxic implantation, connector plug, without screws, rat, 1554
 - brain, sex, age, calculation measurements, 1909
 - biophysics, bone, electricity, face, morphogenesis, skeleton, 3209
 - computer, computer model, electric field, electroencephalography, intercranial field, inhomogeneity, 792
 - computer, face, growth, radiography, morphometrics, 1974
 - drill, neurosurgery, hand drill, 2384

- face, restraining device, nonhuman primates, craniofacial research, 2507
- sleep**, body posture, displacement, movement, 1562
 - breathing rate, electrocardiography, electroencephalography, electromyography, electrooculography, hybrid computer, automatic analysis, 3191
 - body movement, recording, results, 36 volunteers, 3488
 - circadian rhythm, delta rhythm, electroencephalography, rem sleep, damped rhythm, 2086
 - computer model, electroencephalography, model, rem sleep, model vs rat, 3484
 - computer, electroencephalography, electromyography, hybrid computer, rem sleep, 3562
 - digital computer, electroencephalography, schizophrenia, all night sleep, 1963
 - data reduction, electroencephalography, automatic analysis, 3487
 - electroencephalography, model, wakefulness, 1715
 - electroencephalography, model, damped oscillatory phenomenon, 2329
 - galvanic skin response, measuring method, 2313
- sliding filament theory**, actomyosin, muscle contraction,
 - thread model, ultrastructure and contraction of isolated muscle actomyosin, 1670
 - actomyosin, model, muscle contraction, myosin, thread model, contraction mechanism, 1702
 - computer, computer model, digital computer, flagella, model, viscosity, 58
 - computer model, flagella, model, 1273
 - computer model, muscle, muscle model, stimulation purposes, 2048
 - heart muscle, myosin, heart muscle contraction, force velocity relation, 2044
 - model, muscle contraction, muscle tetanic contraction, feedback system, dynamic load, 2475
 - roentgen diffraction, smooth muscle contraction, mollusc, 1927
- slit lamp**, eye, beam alignment, 3506
- slow muscle**, acetylcholine, muscle contraction, muscle fiber, muscle spasm, sarcomere,
 - ultrastructure, frog, 1673
 - fast muscle, muscle fiber, muscle fiber contractility, microscopy, different types, frog, 1928
 - fast muscle, muscle fiber, potassium, sodium, frog, 2782
- smelling**, odor, olfactometry, 1 butanol, threshold, man, olfactometer, 2346
- smoke**, aerosol, air pollution, environmental health, laser, detection system, 1543
- smoking**, cigarette smoking, inhalation, device, rat, 1542
 - data processing, data reduction, digital computer, epidemiology, multivariate analysis, age, 1314 smokers, 176 non smokers, data reduction, age equivalence, 2969
- smooth muscle**, artery, artery wall, elasticity, model, noradrenalin, viscosity, 3594
 - blood vessel, noradrenalin, in vitro recording method, 2267
 - computer model, stomach muscle, stomach potential, partial cuts, dog, 136
 - computer, dose response, pharmacology, on line computer, 2826
 - electromyography, intestine, pharmacology, telemetry, ureter, uterus, 1752
- smooth muscle contraction**, roentgen diffraction, sliding filament theory, mollusc, 1927
 - smooth muscle potential, 1855
- smooth muscle potential**, smooth muscle contraction, 1855
- social behavior**, atherosclerosis, blood flow, blood pressure, hypertension, telemetry, implantation, mouse, 3335
 - computer, computer program, complex transitional matrices, 488
 - speech, telestimulation, social signal recording, monkey groups, 390
- sociology**, air pollution, ecology, environmental health, water pollution, engineering aspect, 507
 - behavior, computer model, 887
 - cell, cell differentiation, model, relational force, 1268
 - computer, digital computer, social aspect, 2596
 - economy, system analysis, 508
- socket**, below knee prosthesis, porous socket, 3752
- sodium**, antidiuresis, computer model, kidney medulla, kidney tubule absorption,
 - computer simulation, osmotic gradient without active transport, 1308
 - aldosterone, body water, cardiovascular system, computer model, henle loop, kidney tubule, mathematic model, model, renin, vasopressin, kidney proximal convoluted tubule, 2756
 - brain steady potential, electroencephalography, electrooculography, electroretinography, glia cell, nerve cell potential, ph, 1708
 - bicarbonate, chloride, kidney tubule absorption, kidney proximal convoluted tubule, static characteristics, 2751
 - calcium, hodgkin huxley equation, model, potassium, excitable membrane, physicochemical model, 1329
 - cell membrane permeability, chloride, muscle fiber membrane, muscle fiber membrane permeability, potassium, crab, 1651
 - cell membrane permeability, muscle fiber membrane, ontogeny, potassium, soleus muscle, age, rat, 1665
 - calcium, hodgkin huxley equation, model, potassium, excitable membrane, physicochemical model, 1720
 - cell membrane, imidazole, muscle fiber membrane, phosphoric acid, potassium, ionogenic groups, 1853
 - calcium, cell membrane permeability, model, potassium, excitable membrane, molecular mechanism, 2494
 - calcium, hodgkin huxley equation, nerve cell, nerve conduction, nerve fiber membrane, phosphatidylserine, potassium, serine, excitable membrane, 2498
 - calcium, magnesium, metabolism, nerve cell, potassium, ribonucleic acid, uridine h 3, mollusc, 2718
 - chloride, model, muscle, nuclear magnetic resonance, proton, water, toad, 2785
 - calcium, cell membrane, cell membrane conductance, excitable cell, model, 2907
 - cell membrane potential, chloride, potassium, tissue culture, cell strain 1, 3259
 - calcium, electrostimulation, membrane, molecular biology, 3570

- extracellular fluid, nerve cell, nerve cell membrane, potassium, snail, 933
- erythrocyte, hemolysis, muscle fiber, nuclear magnetic resonance spectrometry, frog, 2259
- erythrocyte, erythrocyte membrane, extracellular space, sodium 22, compartment model, unstirred layer evidence, 2444
- electroretinography, model, photoreceptor, retina, cephalopod, 3120
- fast muscle, muscle fiber, potassium, slow muscle, frog, 2782
- glucose, glomerulus filtration rate, kidney perfusion, mathematic model, kidney tubule absorption, rat, perfusion, 116
- hodgkin huxley equation, model, voltage clamp, diffusion, 1264
- miniature endplate potential, synapse membrane, synapse vesicle, neurotransmitter, movement theory, 2493
- skin permeability, skin potential, stochastic model, fluctuation, frog, 1929
- sodium chloride**, battery, properties, 496
 - blood, blood volume, dextran, plasma, rheology, viscosity, in vivo, dog, 1523
 - cornea edema, cornea stroma, model, swelling pressure theory, 1567
 - dialysis, seawater, inductive method, 381
 - infrared radiation, refraction, refraction index, water, 286
- sodium electrode**, colon tenia, fet semiconductor, ph electrode, glass electrode, ion sensitive fet, guinea pig, 1509
- sodium iodide i 131**, liver blood flow, radioiodinated human serum albumin, xenon 133, 764
- sodium pump**, mathematic model, model, thermodynamics, 2872
 - nerve cell membrane potential, potassium, snail, 1716
- sodium 22**, cesium 137, scintillator, organic scintillator, bias setting, 317
 - cesium 137, cobalt 57, cobalt 60, gamma radiation, manganese 54, mercury 203, tantalum 182, semiconductor detector, americium 241, yttrium 88, calibration, 2693
 - erythrocyte, erythrocyte membrane, extracellular space, sodium, compartment model, unstirred layer evidence, 2444
- soft tissue**, ceramic, toxicity, corrosion, glass, implantation, subcutis, biocompatibility, histology, electron microscopy, rat, 1639
- soil**, microscope, morphometrics, leitz quantimet 720, 1041
- solar radiation**, atmosphere, energy transfer, sun, 1471
- soleus muscle**, cell membrane permeability, muscle fiber membrane, ontogeny, potassium, sodium, age, rat, 1665
- solution**, model, van der waals force, isotropic rod, retarded interaction, 3598
- sonic boom**, aircraft, holography, laser, supersonic aircraft, 3041
- sound**, abdomen, auscultation, 550
 - auditory masking, hearing, signal noise ratio, critical band width, critical masking interval, 1693
 - auditory masking, hearing, noise, combination tone, nonlinear system, combination, band level, 2055
 - acoustic nerve, auditory masking, hearing, loudness, nerve potential, man, postmasking recovery, external meatus electrode, 2058
 - analyzer, singing, singin sant, 3601
 - artificial ventilation, blood flow, erythrocyte, gas embolism, oxygenation, respiration, rheology, gas bubble, 3602
 - aerosol, nonlinear system, hormone generation, 3691
 - analyzer, information, oriental hornet, 3743
 - cochlea, cochlear nerve, frequency discrimination, superior olive, auditory nerve cell, 919
 - discrimination, hearing, complex sound recognition, 788
 - deoxyribonucleic acid, erythrocyte, shear stress, cell disruption, 1695
 - digital computer, hearing, pattern recognition, lestener computer cooperation, 1952
 - digital computer, model, sea pollution, temperature, 3385
 - environmental health, hearing, laser, noise, environmental noise, 3437
 - echography, ultrasonics, doppler effect, scattering, analysis, 3603
 - gas, sound absorption, poly atomic gas, 2231
 - hearing, hearing threshold, model, stimulus integration, 3599
 - hearing, music, ear trauma, sound level measurement, rock and roll, 3747
 - microwave radiation, anechoic room, design, optical method, 299
 - microphone, ceramic microphone, 743
 - phonometry, stapes muscle, device, extratympanic method, 2345
 - waveguide, 1843
- sound absorption**, acoustics, noise reduction, sound transmission, 2059
 - environmental health, mathematic model, model, sound propagation, 557
 - gas, sound, poly atomic gas, 2231
 - ultrasonics, cw technique, 324
 - ultrasonics, sound velocity, resonator, liquid, 745
- sound detection**, auditory discrimination, auditory masking, binaural hearing, directional hearing, hearing time discrimination, 1692
 - binaural hearing, directional hearing, hearing, lateral source, 86
 - directional hearing, hearing, median plane, 2881
 - directional hearing, hearing, information, uncertainty relation, 3244
 - directional hearing, diver, diving, hearing, underwater hearing, minimum audible angle, underwater, 3600
 - ear trauma, 2464
 - piezoelectric transducer, signal detection, distributed sources, 1823

sound generator, stimulator, tape recording, tone, cassette recorder, touch tone equipment, 1902
 -ultrasonics, vibrating blade, 1845

sound lateralization, auditory masking, binaural hearing, hearing, phase discrimination, 3241

sound level measurement, hearing, telephone, loudness rating, 923
 -hearing, industrial health service, industrial noise, specification, osha regulation, 3690
 -hearing, music, sound, ear trauma, rock and roll, 3747
 -microphone, omnidirectional microphone, 1948
 -noise, level characterisation, 1066
 -spatial averaging, 2888

sound perception, acoustic nerve, auditory masking, cochlea nucleus, hearing, signal detection, superior olive, central auditory masking, theory, 921
 -hearing, music, pattern recognition, 97
 -hearing, loudness, masking, perception, 556

sound pressure, audiometry, comment, ansi 1969 standard, 1289
 -microphone, probe tube microphone, 1917

sound propagation, environmental health, mathematic model, model, sound absorption, 557
 -model, flow, 3 d flow, 266

sound stimulation, nerve fiber, hair cell, cricket, 1919

sound transmission, acoustics, noise reduction, sound absorption, 2059

sound velocity, temperature, water, 3039
 -temperature, water, 3434
 -ultrasonics, sound absorption, resonator, liquid, 745

soybean, nutritional habit, protein, 2252

spark chamber, power supply, pulse generator, nuclear radiation, 2550

specimen, scanning electron microscopy, specimen preparation, 670

specimen holder, electron microscopy, low temperature, 662
 -electron microscopy, hitachi hu 11a, hu 200e, 1384
 -microscopy, microscope slide, 2102

spectacle glasses, eye injury, lens, injury reduction, 2770

spectral analysis, digital computer, data window, 32

spectral sensitivity, auditory discrimination, hearing, bees, 2771
 -color vision, cornea, retina cone, vision, monkey, 817
 -color blindness, color vision, computer model, fick's shifting hypothesis, 2340
 -color blindness, color vision, retina cone, spectrometry, vision, visual pigment, 2895
 -colorimetry, color vision, light adaptation, visual pigment, visual system, 2898
 -colorimetry, color vision, model, photometry, retina fovea, heterochromatic additivity, 3252
 -photoreceptor, photoreceptor potential, grasshopper, bumblebee, 2500

spectrometry, 1 h2-10 mh2, complex permittivity, 3422
 -adenosine triphosphate, calcium, computer program, data processing, ethylene glycol bis(2 aminoethyl)tetraacetate, muscle relaxation, 1174
 -analyzer, 1394
 -averaging, data processing, statistics, 1437
 -air pollution, environmental health, infrared radiation, laser, hydrogen cyanide, water vapor, 1510
 -air pollution, fluorescence, fluorine, roentgen radiation, uranium, siemens srs, 1511
 -alpha radiation, semiconductor detector, array detector, position sensitive, 2224
 -air pollution, computer, fluorescence, semiconductor detector, minicomputer, radiotracer, 2695
 -alpha radiation, digital computer, gamma radiation, semiconductor detector, 3027
 -averaging, statistics, probability distribution, 3216
 -atmosphere, infrared radiation, thrombocythemia, 3414
 -beta radiation, computer, data processing, digital computer, gamma radiation, 736
 -beta radiation, thin film analysis, 1499
 -computer, data processing, nuclear radiation, on line, 280
 -cosmic radiation, photographic film, ilford k2, 321
 -cobalt 60, gamma radiation, roentgen radiation, scintillator, calibration scheme, 728
 -cooling, photomultiplier, spectral sensitivity, 1341
 -computer, camera tube, 1457
 -computer memory, holography, infrared radiation, memory, 1479
 -camera, monochromator, ultraviolet radiation, 2578
 -counter, neutron radiation, total absorption counter, 2703
 -color blindness, color vision, retina cone, spectral sensitivity, vision, visual pigment, 2895
 -colorimetry, liver disease, urobilin, spekol, 3481
 -colorimetry, illumination, photometry, metamerism, 3609
 -data processing, digital computer, cary 14, 717
 -data processing, digital computer, 1453
 -dipole theory, fluorescence, molecule, absorption spectroscopy, spectral shift, 2200
 -digital computer, infrared radiation, spectrophotometry, 2209
 -data processing, densitometry, digital computer, photography, strip chart recorder, 2613
 -digital filtering, non damping filter, 2638
 -digital computer, magnetic field, sweep generator, electron spin resonance spectrometry, digital generator, 2689
 -densitometry, strip chart recorder, honeywell, elektronik 194, 2804
 -electron spin resonance, low frequency, high sensitivity, 300
 -electron spin resonance, photolysis, sampling amplifier, 1050

- electron spin resonance, magnetic field, field marker, 1052
- electron spin resonance, base line drift, double integration, 1054
- electron spin resonance, automatic balanced bridge, 1484
- electron spin resonance, photolysis, 2686
- fluorimeter, 284
- frequency analysis, speech, vocal cord, sift, algorithm, fundamental frequency, 2477
- fourier transform, phase error, 3396
- fluorescence, optic filter, photometry, light reflection, reflection measurement, 3402
- gamma radiation, correction system, 1063
- gamma radiation, semiconductor detector, ge hi, coincidence spectrometer, 1493
- gamma radiation, time, time measurement, digital system, 2226
- gamma radiation, scintillation counting, hodoscope spectrometer, 3031
- gas chromatography, mpd 850, 3376
- gamma radiation, scintillation counting, radiation absorption, 3684
- hydrogen, light, ultraviolet radiation, lyman discharge, 2675
- infrared radiation, spectrophotometry, calibration, 1048
- infrared radiation, infrared spectrometry, nerve conduction, nerve excitability, signal noise ratio, perkin elmer 521 modification, 3104
- image processing, 3399
- information processing, statistics, moessbauer spectrometer, thick absorber, 3675
- light, radiometry, tungsten, lamp, spectral power distribution, 1456
- light absorption, model, roentgen radiation, magnetism, infrared absorption, analysis, 2662
- light absorption, high pressure, 2669
- laser, light absorption, radioisotope, chemical kinetics, 2674
- laser, application, 3003
- microwave radiation, 302
- microwave radiation, 726
- microwave radiation, nuclear magnetic resonance, nuclear magnetic resonance spectrometry, endor spectrometer, 1834
- microscopy, photometry, cary 14 or cary 17, 2670
- moessbauer spectrometer, velocity sense determination, 3406
- nuclear radiation, flexible, 605
- nuclear magnetic resonance, nuclear magnetic resonance spectrometry, modification, 749
- nuclear magnetic resonance, multiple pulse, 1053
- neutron radiation, proton, scintillator, ne 102, ne 228, 2228
- neutron radiation, slow neutrons, 3038
- neutron radiation, americum 241, 0.1-2.4 mev, 3431
- neutron radiation, pulse discrimination, analysis, 3686
- photolysis, radiolysis, general technique, 292
- photometer, recorder, micro spectrometer, 653
- photo cell, spectral sensitivity, 1342
- pulse generator, nuclear radiation, 1811
- pulse height analysis, nuclear radiation, 2149
- pattern recognition, generalized solution, 2653
- photometry, visual system, additional system, 3000
- photometry, multi wedge comb attenuator, linearity, 3002
- photometry, spectrophotometry, single channel, review, 3005
- photometry, logarithmic amplifier, double beam photometer, 3284
- radiometer, automatic recorder, 1462
- spectrophotometry, ultraviolet radiation, fourier transform, design, 1473
- ultrasonics, low temperature, 744
- ultraviolet radiation, calibration, 2664
- variable cavity coupler, variable temperature, varian v 4502, 2682
- spectrophotometry**, computer, visual pigment, insect, frog, 2348
 - digital computer, infrared radiation, spectrometry, 2209
 - data processing, luminescence, chemical kinetics, 3017
 - infrared radiation, spectrometry, calibration, 1048
 - photometry, spectrometry, single channel, review, 3005
 - spectrometry, ultraviolet radiation, fourier transform, design, 1473
 - sartorius muscle, flow measurement, dog, 2282
 - visual pigment, review, microspectrometry, 1566
- spectroscopy**, fourier transform, inverse fourier transform, 1232
 - laser, microanalysis, 2647
 - moessbauer spectrometer, backscatter spectroscopy, 1441
- spectrum**, electroencephalography, automatic classification, 2905
 - lamp, review of commercial lamp, 1452
- speculum**, vagina speculum, retractor, 1156
- speech**, autocorrelation, fourier transform, logical convolution, 924
 - autocorrelation, 3247
 - blindness, computer memory, computer program, programmer, 448
 - binaural hearing, brain, dichotic listening, hearing, hemispheric dominance, ear dominance, verbal stimuli, non verbal stimuli, 2877
 - computer, language, learning, display system, second language learning, 757

- cineradiography, data processing, digital computer, laryngography, lip, lip movement, image processing 1140
- computer, medical record, telephone, touch tone telephone, 1967
- computer program, digital computer, hearing, pattern recognition, segment classification, 2724
- digital computer, review, 756
- deafness, digital computer, speech training, 758
- deafness, hearing, tactile sensitivity, touch, pitch control, 822
- diving, 1102
- data processing, telemetry, digital transmission, 3051
- digital computer, speech intensity, 3246
- digital computer, pattern recognition, real time recognition systems, 3447
- electroencephalography, signal detection, overlapping wavelet, 1263
- emotion, pattern recognition, correlates, spectrogram, 1686
- electromyography, palate, tongue, method, electropalatography, 2291
- frequency analysis, spectrometry, vocal cord, sift, algorithm, fundamental frequency, 2477
- hearing, intelligibility, segment duration, just noticeable difference, rhythm, 85
- hearing, memory, short term memory, pattern recognition, 1683
- hearing, pitch perception, pitch contours, automatic recognition, 1694
- hearing, vowel, 2060
- hearing, music, pitch discrimination, frequency transition, 2478
- hearing, vowel, signal noise ratio, consonant, vowel, consonant, 2479
- hearing, music, pattern recognition, intelligibility, complex sound, 2887
- information theory, model, recognition, 524
- joint, model, 1104
- joint, mathematic model, 3078
- learning, pitch perception, vowel, pitch discrimination,
 - fundamental frequency, synthetic speech, sound spectrograms, 2876
- model, vocal cord, two mass model, 558
- mathematic model, 2480
- social behavior, telestimulation, social signal recording, monkey groups, 390
- speech transmission, quantization, dither noise, 649
- spinal cord lesion, voice, wheelchair, voice command, 1133
- utterance timing, 339
- speech intelligibility**, deafness, hearing aid, cochlea deafness, graded instantaneous compression, 812
- speech training**, deafness, digital computer, speech, 758
- speech transmission**, speech, quantization, dither noise, 649
- spermatozoon**, adenosine diphosphate, adenosine triphosphate, elasticity, flagella, stiffness, bull, 3595
- spheroid joint**, erythrocyte, particle size, electrical sizing, 1076
- spherule**, computer model, suspension, colloid, equal sphere, unequal sphere, 1229
- spike**, amygdaloid nucleus, electroencephalography, olfactory bulb, telemetry, rabbit, 1765
 - cell membrane potential, digital computer, on line computer, pattern recognition, extracellular recording, 134
 - computer, electroencephalography, epilepsy, automatic spike estimation, 3780
 - computer, nerve potential, 3790
 - electroencephalography, nerve cell potential, telemetry, transmitter, nervous system, implantation, frequency modulation, implantable transmitter, 1757
 - nerve cell potential, spike separation method, 2087
- spike wave**, computer, electroencephalography, detection, quantification, 862
- spinal cord**, antagonist muscle, h reflex, muscle, reciprocal innervation, voluntary movement, reciprocal inhibition, 1549
 - cerebellum, deafferentation, leg, locomotion, nerve cell, nerve cell potential, spinocerebellar tract, cat, 2757
 - elbow, motoneuron, movement, tendon reflex, 1559
- spinal cord blood flow**, artery flow, reversible current, man, monkey, 775
- spinal cord lesion**, speech, voice, wheelchair, voice command, 1133
- spinal cord potential**, anterior horn, extrapyramidal system, motor cortex, pyramidal tract, cat, 2308
- spine**, biomechanics, review, 1668
 - computer, scintigraphy, skeleton, statistics, 42 scintigram, 2389
 - erector spinae muscle, impact, mathematic model, seatbelt, muscle influence, man, 3512
 - mathematic model, scoliosis, 74
- spinocerebellar tract**, cerebellum, deafferentation, leg, locomotion, nerve cell, nerve cell potential, spinal cord, cat, 2757
 - dorsal spinocerebellar tract, nerve cell potential, walking, cat, 3737
- spirometry**, 2748, 3716
- spirometry**, body plethysmography, computer, computer program, gas analysis, lung alveolus, 3560
- spirometry**, chronic obstructive lung disease, computer, heart output, impedance plethysmography, plethysmography, lung function, 3077
 - computer, exercise test, lung function, on line computer, 3784
 - digital computer, respiration, digital read out, life support medical systems corp., 3189
 - digital computer, lung disease, respiration, lung function, data processing, 3561
 - lung ventilation, disposable device, boehringer spirometer, 2297
- spirometry**, respirometry, lung function, large animals, 2295
 - computer, lung function, preliminary report, 1980

- ergometry, sport, telemetry, lung function, review, 647
- sponge**, absorption, collagen, formaldehyde, resorption, 3197
- sport**, ambulance, breathing rate, heart tape recorder, telemetry, recording, electrocardiography, double channel telemetry, 3328
 - biomechanics, ergometry, muscle, telemetry, rowing, 1764
 - breathing mechanics, diving, electromyography, telemetry, 3650
 - electrocardiography, electrode, exercise, spray electrode, 271
 - ergometry, spirometry, telemetry, lung function, review, 647
 - ergometry, football, oxygen consumption, telemetry, work, 3647
 - electrocardiography, heart arrhythmia, telemetry, 3649
 - heart rate, telemetry, training, self training, 3654
- square wave generator**, function generator, 1748
 - integrated circuit, 3640
 - lock in amplifier, reference generator, 1344
 - thyristor, spark machining, 212
 - voltage controlled, 3317
- staining**, fluorescence, lipid membrane, membrane potential, 1 anilinoanthracene 9 sulfonate, 587
- stainless steel**, aluminum, blood, copper, hemolysis, nylon, teflon, polystyrene, implantation, 3698
 - muscle, poly(vinyl chloride), teflon, toxicity, biomaterial, rabbit muscle, histopathology, 3566
 - titanium, vitallium, zinc, metal, corrosion, implantation, alloy, 1213
 - vitallium, reaction of dissimilar metals, dog, 493
- standard**, medical instrumentation, safety, faults, 1227
 - resistance, nbs standard, 1225
- standardization**, computer program, dosimetry, radiology, radiotherapy, 2815
- stapes muscle**, phonometry, sound, device, extratympanic method, 2345
- stapler**, gastrointestinal tract, soviet ukl 60 uus 23, 1154
- statistics**, 506
 - autocorrelation, data processing, information theory, square periodic process, 37
 - averaging, data processing, spectrometry, 1437
 - aminoacid, genetics, model, taxonomy, alpha globin, dendrogram, network, chicken, 2842
 - bacterium, population density, sampling, water system, negative binomial distribution, 2011
 - breeding, genetics, model, process control, selection differentials, animal, plant, 2015
 - biology, data processing, selective value estimation, 2016
 - binomial distribution, model, multivariate analysis, susceptibility factor, 2447
 - computer, diagnosis, bahadur distribution, 858
 - computer, epilepsy, population, 875
 - computer, karyotype 46,XY plotter, 1160
 - computer program, model, data fitting, chemical kinetics, fortran, 1607
 - computer, scintigraphy, skeleton, spine, 42 scintigram, 2389
 - computer program, data processing, information, multivariate analysis, non linear regression, 2455
 - cell, model, molecular biology, 2460
 - covariance, levin method, 2467
 - contingency table, information, multivariate analysis, independence test, 2857
 - computer program, iodine 131, phosphorus 32, nuclear radiation, chi square test, 2923
 - death, genetics, mathematic model, model, population, disease, disease liability, recurrence risk, 2010
 - dose response, population, mixed population, 2012
 - data processing, model, monitoring, curve fitting, time dependent data, 2013
 - ecology, model, population, age dependent branching, 22
 - epidemiology, model, public health service, classification, 910
 - ecology, information theory, kernel identification, 1848
 - electrode, nerve cell, time delay, phase shift analysis, 2914
 - epidemiology, infection, model, population, disease, 3578
 - fertility, genetics, mathematic model, population, genetic analysis, self fertilized population, rice wheat 2014
 - genetics, model, molecule, taxonomy, beta globin, dendrogram, network, 2841
 - growth rate, bayesian estimate, 2854
 - group testing, 3232
 - information theory, task performance, thermodynamics, no visual input, 906
 - information processing, spectrometry, moessbauer spectrometer, thick absorber, 3675
 - k methods with 1 control, 1233
 - linear system, filtering, non gaussian distribution, 1256
 - model, perception, variance analysis, 54
 - mathematic model, mental health, psychiatry, markov process, 901
 - model, mortality, multivariate analysis, variance, meteorology, 2449
 - multivariate analysis, 2450
 - model, regression, misspecification, 2452
 - model, regression, partial contingency, 3211
 - model, drug, kodlin standish model, 3693
 - nuclear medicine, oxygen 15, probability, radioisotope, strontium 85, likelihood, mean square error, 2797
 - observation, censored observation, 2839
 - psychology, 38
 - photomultiplier, signal noise ratio, rca 8850, 2672

- process control, tablet, variance, pharmaceutic industry, pharmaceutical tablet manufacturing, 2840
- plotter, 3299
- quantized signal, 531
- regression, feedback system, 528
- reaction time, task performance, psychophysics, forced choice experiment, 1666
- stochastic approximation, 1231
- stochastic process, 1235
- signal detection, multiple hypothesis estimation, 1248
- signal detection, wilcoxon test, 1253
- sampling, inverse sampling, 2448
- vision, pattern recognition, 1292
- variance, variance homogeneity, 2451
- statokinesimetry**, body posture, gravity, 1127
- stellate ganglion**, heart left ventricle, mathematic model, inotropic response, heart left ventricle enddiastolic volume, 3596
- stellite 21**, adventitia, heart valve prosthesis, thrombosis, waxy contamination, 1090
- stenosis**, aorta flow, blood flow, blood pressure, diagnosis, mathematic model, model, pulsatile flow, aorta stenosis, strouhal number, 1305
- stereoscopic vision**, 3626
 - convergence, retina, vision, visual field, asymmetric convergence, frame of reference, 1690
 - display system, 3 dimensional system, 1578
- stereotaxic device**, dentate nucleus, hypophysis, stereotaxic surgery, man, 442
 - head, roentgenology, stereotaxic implantation, head horizontal placing, 1112
 - restraining device, animals, 1901
 - stereotaxic implantation, stereotaxic surgery, principles, 3095
- stereotaxic implantation**, amplifier, brain depth recording, capacitance, microelectrode, capacitance neutralization, 388
 - brain perfusion, rabbit, 784
 - brain depth recording, clamp, electrode implantation, head, restraining device, rat, 1552
 - brain depth recording, skull, connector plug, without screws, rat, 1554
 - brain depth recording, electrode implantation, position calculation, 1556
 - brain depth recording, electrode implantation, lateral geniculate body, thalamus, 1880
 - brain artery aneurysm, magnetic field, thrombus, magnetic controlled thrombosis, 1888
 - brain depth recording, electrode, microelectrode, design, use in man, 3486
 - head, roentgenology, stereotaxic device, head horizontal placing, 1112
 - stereotaxic device, stereotaxic surgery, principles, 3095
- stereotaxic surgery**, brain depth recording, computer program, parkinsonism, thalamus, brain depth stimulation, probe location, pdp 12, 1631
 - brain, computer, computer program, localization technique, 3731
 - dentate nucleus, hypophysis, stereotaxic device, man, 442
 - electrode, thermistor, brain depth stimulation, 3492
 - model 6, 3493
 - stereotaxic device, stereotaxic implantation, principles, 3095
- sterilization**, filter, disposable, 379
- steroid hormone**, aminoacid, chromatography, drug, thin layer chromatography, vitamin, 3380
- stethoscope**, osteotomy, saw, gigli saw guide, 1943
- stiffness**, adenosine diphosphate, adenosine triphosphate, elasticity, flagella, spermatozoon, bull, 3595
- stimulation**, brain, data processing, information, mathematic model, 1111
- stimulation artifact**, electrostimulation, latent period, median nerve, nerve potential, wrist, sensory nerve, 948
- stimulator**, dentistry, electrostimulation, tooth pulp, reliability, 3449
 - electromyography, locomotion, muscle tone, telemetry, free moving, rabbit, 1753
 - facial nerve, 972
 - nerve, implantation, 204
 - nerve cell potential, generator, visual stimulation, moving stimulus, 3509
 - pulse generator, voltage controlled, 3307
 - reflex, tendon, student laboratory, 2322
 - sound generator, tape recording, tone, cassette recorder, touch tone equipment, 1902
- stochastic model**, algorism, linear system, 522
 - adsorption, 2837
 - compartment model, steady state analysis, 49
 - chemical kinetics, monte carlo method, 907
 - eye fixation, eye movement, model, 75
 - entropy, lateral geniculate body, nerve cell potential, red nucleus, reticular formation, markov process, 152
 - enzyme kinetics, linear system, chemical kinetics, open linear system, 1230
 - evolution, protein, 1234
 - model, nerve cell potential, 147
 - metabolism, compartment model, chemotracer, 904
 - mathematic model, chemical reaction, chemical kinetics, bio mathematical model, 2005
 - model, discrete time model, 2470
 - signal noise ratio, pattern recognition, 1661
 - skin permeability, skin potential, sodium, fluctuation, frog, 1929

stochastic process, statistics, 1235
stomach, diagnosis, roentgen radiation, television, gyroscopic roentgen apparatus, 838
 -diagnosis, endoscopy, roentgen apparatus, roentgen radiation, 3521
stomach acid, endoradiosonde, peptic ulcer, stomach ulcer, telemetry, man, 2256
stomach acid secretion, continuous recording, rat, 3052
stomach mucosa, cell membrane, hydrogen ion, proton, conductance, 2863
stomach muscle, computer model, smooth muscle, stomach potential, partial cuts, dog, 136
stomach potential, computer model, smooth muscle, stomach muscle, partial cuts, dog, 136
stomach ulcer, endoradiosonde, peptic ulcer, stomach acid, telemetry, man, 2256
storage oscilloscope, cathode ray oscilloscope, transfer storage, 1744
 -cathode ray oscilloscope, digital computer, oscilloscope, tektronix, 1788
strabismus, forceps, forces measurement, 1157
 -medical record, documentation, 3177
strain gauge transducer, application, 2517
 -blood flow, plethysmography, 356
 -balance, balance suspension, 1010
 -blood pressure, pressure transducer, semiconductor, miniature pressure transducer, 3388
 -capacitance, high stability, 701
 -diode, pressure transducer, semiconductor, ultraminiature, 2515
 -integrated circuit, pressure transducer, review, 1806
 -intracranial pressure, monitoring, monitoring, 2314
 -intracranial pressure, monitoring, pressure transducer, semiconductor, technical note, 2761
 -intracranial pressure, respiration, long term measurement, 3489
 -magnetic field, temperature, denfoil 1831 ne, gauge factor, 960
strength duration curve, all or none law, excitation, nerve conduction, nerve fiber membrane, dipole model, quantum theory, 1315
stress, aircraft, airplane crew, heart rate, telemetry, 3329
 -behavior, cerebrovascular disease, electroencephalography, frequency analysis, 1726
 -blood flow, electroencephalography, electromagnetic flowmeter, flowmeter, telemetry, neurotransmitter, electrocardiography, implantation, animal, 3321
 -bone, cortical bone, elasticity, mechanical testing, 3590
 -electrocardiography, electroencephalography, ergometry, telemetry, man machine interaction, 3645
 -skin resistance, man machine interaction, four electrode method, 272
stretch receptor, computer model, nerve cell potential, slow adapting receptors, crayfish, 1324
strip chart recorder, character, computer, electroencephalography, character generation, 389
 -densitometry, spectrometry, honeywell, elektronik 194, 2804
 -electric motor, linear motor, 1745
 -indicator, limiter, indicator protection, current limiter, 3301
 -sampling, sampling, design, 2130
stroboscopy, electroencephalography, photic driving, automatic estimation, 2305
 -larynx, microphone, improvement, probe microphone, 2292
strontium 85, nuclear medicine, oxygen 15, probability, radioisotope, statistics, likelihood, mean square error, 2797
strontium 87m, collimator, scintigraphy, multislit collimator, 830
strophanthin, acetylcholine, adrenalin, cell membrane potential, skin, 2,4 dinitrophenol, 1717
structure activity relation, hemoglobin, mathematic model, oxygenation, ph, 2,3 diphosphoglyceric acid, 2257
subclavian artery, blood flow, lung, rheology, 3461
subcutis, ceramic, soft tissue, toxicity, corrosion, glass, implantation, biocompatibility, histology, electron microscopy, rat, 1639
 -inflammation, polyurethan, local reaction, mouse, rat, rabbit, various reactions, 3196
succinic acid, dosimetry, dicarboxylic acid, mixed radiation, 2641
sucrose, electrophoresis, immunoglobulin g, horizontal set up, electrofocusing, 1801
sucrose gap, heart muscle, heart muscle membrane, hodgkin huxley equation, nerve fiber, voltage clamp early current analysis, 1279
suction, suction pump, 3458
suction pump, suction, 3458
sudden death, death, heart tape recorder, telemetry, electrocardiography, 3326
suicide, decision, judgment, model, suicide prevention, 2861
suicide prevention, decision, judgment, model, suicide, 2861
sulfate derivative, erythrocyte membrane permeability, magnesium, methylene blue, neuraminidase, phosphoric acid, erythrocyte membrane potential, 3057
sun, atmosphere, light, model, sunlight, solar flux, 1450
 -atmosphere, energy transfer, solar radiation, 1471
 -choroid, retina, temperature, solar observation, 1124
sunlight, atmosphere, light, model, sun, solar flux, 1450
 -light, photometry, 1458
superior colliculus, nerve cell, retina receptive field, visual cortex, visual field, cat, 2310
superior olive, acoustic nerve, auditory masking, cochlea nucleus, hearing, signal detection, sound perception, central auditory masking, theory, 921
 -cochlea, cochlear nerve, frequency discrimination, sound, auditory nerve cell, 919
supersonic aircraft, aircraft, holography, laser, sonic boom, 3041
surgery, artery, artery bypass, electromagnetic flowmeter, 1807

- clamp, homeostasis, vasoconstriction, 3763
- drill, hip prosthesis, hohmann modification for prosthesis insertion, 1155
- dentistry, tissue, irrigation, tissue pressure, army medical irrigator, medical irrigator model 200, 3767
- orbit, periosteum, retractor, elevator, periosteal elevator, 1947
- surgical microscope**, cornea transplantation, trephine, 3114
- suspension**, conductivity, erythrocyte, model, 1031
 - computer model, colloid, spherule, equal sphere, unequal sphere, 1229
 - light, light absorption, model, refraction index, light reflection, colloid, spherical particle, 3013
 - phosphorus, water pollution, activated carbon, water treatment, 1846
- suturing**, catgut, polylactic acid, polyglycolic acid, scanning electron microscopy, rat, 2830
 - needle, uterine cervix incompetence, 378
- sweat**, galvanic skin response, motion sickness, sweating, sweat sensor, 2366
- sweating**, galvanic skin response, motion sickness, sweat, sweat sensor, 2366
 - model, vascular plant, 83
- sweep generator**, constant slope/rate, 2547
 - digital computer, electron microscopy, electron probe, magnetic lens, high voltage sweep, 973
 - digital computer, magnetic field, spectrometry, electron spin resonance spectrometry, digital generator, 2689
- switch**, air flow, balloon, blood flow, bubble, capillary, lung alveolus, mathematic model, membrane, respiration, nonlinear system, 3612
 - cryogenics, helium, thermal switch, 1017
 - circuit testing, 2104
 - cryogenics, cryostate, thermal switch, 2622
 - computer memory, semiconductor, amorphous semiconductor, 2834
 - diode, avalanche diode, 166
 - electronic switch, semiconductor, thyristor, power switch, merits, 955
 - electronic switch, 2143
 - laser, 60 kv switch, 2504
 - mass spectrometry, atlas ch 4, peak switch controller, 1011
 - power supply, semiconductor, 589
 - process control, self oscillating switch, 1422
 - piezoelectricity, pigeon, 3097
 - silicon unilateral switch, 880
 - semiconductor, rca cd 4016 a, 1749
 - semiconductor, mosfet switch, nonovolt level, 2950
 - semiconductor, high speed, 3201
 - semiconductor, design, 3316
 - thermometer, thermostat, glass switch, 3387
- syilian gyrus**, acetylcholine, brain cortex layer, evoked cortical response, 4 aminobutyric acid, evoked acoustic nerve response, electrogenetical differences, dog, 1550
- symptom**, computer program, epidemiology, psychiatry, 857
 - computer program, epidemiology, psychiatry, 1959
 - chronic disease, computer, diagnosis, heart failure, model, prognosis, aorta incompetence, 2810
- synapse**, computer model, mathematic model, nerve cell, nerve cell model, postsynaptic potential, input output relations, mollusc comparison, 2920
 - excitatory postsynaptic potential, inhibitory postsynaptic potential, learning, mathematic model, memory, model, nerve cell, nerve cell model, 3264
 - mathematic model, memory, nerve cell network, 146
 - model, nerve cell, nerve fiber, 2497
 - nerve cell, nerve cell code, spontaneous behavior, 2330
- synapse membrane**, miniature endplate potential, sodium, synapse vesicle, neurotransmitter, movement theory, 2493
- synapse transmission**, mathematic model, nerve cell, nerve cell potential, epileptic nerve cell, 1320
 - mathematic model, muscle, neuromuscular transmission, crab, 2050
 - mathematic model, presynaptic inhibition, 2097
- synapse vesicle**, miniature endplate potential, sodium, synapse membrane, neurotransmitter, movement theory, 2493
- syncytium**, excitation, heart arrhythmia, multicomponent excitable medium, 2735
- syringe**, aspiration, local anesthesia, nerve type, 1945
 - dentistry, semi automatic syringe, reliability, 3451
- system analysis**, blood flowmeter, nuclear magnetic resonance, pulsatile flow, 932
 - computer, data processing, laboratory, 1170
 - computer, data processing, laboratory, 1171
 - computer, creatine phosphokinase, data processing, laboratory, lactate dehydrogenase, serum, serum aspartate aminotransferase, enzyme, 1172
 - computer, data processing, laboratory, 1173
 - economy, sociology, 508
 - impact, mathematic model, muscle, skeleton, feedback system, line graph flow graph procedure, 2033
 - information, 2445
 - information, pattern recognition, behavior, parameter extraction, 3583
 - muscle, muscle spindle, 78
 - medicine, problem solving, book, 1949
 - medicine, problem solving, workbook, 3540

- systole**, carotid artery pulse, electrocardiography, exercise, heart left ventricle ejection time, atraumatic method, 3472
- systolic blood pressure**, aorta pressure, assisted circulation, counterpulsation, femoral artery, aorta balloon pump, method comparison, 3067
 - blood pressure, diastolic blood pressure, electrocardiography, public health, screening, cuff method, automation, 124
 - blood pressure, hypertension, tail, validation of tail cuff method, awake rat, 2289
 - blood ph, blood pressure, digital computer, monitoring, 2421
- tablet**, process control, statistics, variance, pharmaceutic industry, pharmaceutical tablet manufacturing, 2840
- tactile discrimination**, electrostimulation, touch, 385
- tactile reading**, mathematic model, reading, 2008
- tactile sensitivity**, deafness, hearing, speech, touch, pitch control, 822
 - tongue, touch, vibration, 2722
- tail**, blood sampling, vacuum, vacuum device, rat, 1865
 - blood pressure, hypertension, systolic blood pressure, validation of tail cuff method, awake rat, 2289
- tantalum**, esophagus peristalsis, esophagus pressure, respiration, peristalsis, cat, tantalum wires, manometry, 1857
- tantalum 182**, cesium 137, cobalt 57, cobalt 60, gamma radiation, manganese 54, mercury 203, sodium 22, semiconductor detector, americium 241, yttrium 88, calibration, 2693
- tape**, computer, tape updating, 1787
 - cardiovascular system, data processing, heart tape recorder, 2273
 - heart tape recorder, cassette recorder, frequency response measurement, 2943
- tape recording**, computer, environmental health, heart rate, monitoring, skin temperature, data logger, computer compatible output, 486
 - cassette recorder, standardization, 632
 - computer, review, 680
 - electrocardiography, heart rate, display system, 971
 - ferrite head, ampex, 631
 - hearing, subjective flutter, 633
 - instrumentation recorder, constant speed drive, two motor reel drive, 191
 - instrumentation recorder, three parameter recorder, 970
 - instrumentation recorder, tape interface, nuclear data 130, kennedy 1400, 1743
 - sound generator, stimulator, tone, cassette recorder, touch tone equipment, 1902
 - time marker, chronometer, instrumentation recorder, 192
- target**, electron microscopy, 227
- task performance**, computer model, display system, man machine interaction, non compensatory tracking task, 1660
 - electroencephalography, evoked cortical response, eye, motivation, photostimulation, age, 3102
 - frequency analysis, man machine interaction, tracking performance, 1659
 - hearing, industrial health service, noise, noisy environment, 816
 - hand, eye hand control, hand position recording, 2333
 - hearing, vision, display system, man machine interaction, audio visual display, 3218
 - information theory, memory, model, vision, display system, man machine interaction, 42
 - information theory, statistics, thermodynamics, no visual input, 906
 - learning, model, children, neo piagetian model, 3094
 - motor skill, 384
 - reaction time, statistics, psychophysics, forced choice experiment, 1666
 - tremor, vision, clinical test, 395
 - tremor, tremor quantification, 2789
- taxonomy**, aminoacid, genetics, model, statistics, alpha globin, dendrogram, network, chicken, 2842
 - cluster, computer program, classification, object classification, nonparametric classification, 1414
 - genetics, model, molecule, statistics, beta globin, dendrogram, network, 2841
- teaching**, acid base balance, acidosis, alkalosis, blood ph, computer program, systematic approach, instruction and diagnosis, 3545
 - biochemistry, computer, 2391
 - computer, hemostasis, 760
 - computer, system caen, 1602
- technetium 99m**, computer, iodine 131, thyroid function, thyroid gland, method validation, 239 patients, 2808
 - collimator, gamma radiation, scintigraphy, scintillation camera, modulation transfer function, 3344
 - immobilization, restraining device, scintiscanning, clinical use, 3758
 - saliva gland, scintigraphy, 3450
- teflon**, aluminum, blood, copper, hemolysis, nylon, stainless steel, polystyrene, implantation, 3698
 - muscle, poly(vinyl chloride), stainless steel, toxicity, biomaterial, rabbit muscle, histopathology, 3566
 - prosthesis, vein, prosthesis patency, piglets, 2727
- telemetry**, air flow, exercise, respiration, flow measurement, 1758
 - artifact, electrocardiography, electroencephalography, interference suppression, electric hazard, 1763
 - amygdaloid nucleus, electroencephalography, olfactory bulb, spike, rabbit, 1765
 - alarm monitoring, 2 terminal modules, 2146

- aviation, blood pressure, heart rate, electrocardiography, airplane crew, multichannel system, 2147
- amplitude modulator, electromagnetic radiation, linear modulator, 2148
- amplifier, electromagnetic radiation, wide band amplifier, input impedance, 2525
- amplitude modulator, pulse modulation, demodulation, 2570
- ambulance, breathing rate, sport, heart tape recorder, recording, electrocardiography, double channel telemetry, 3328
- aircraft, airplane crew, heart rate, stress, 3329
- analog, digital transmission, 3332
- artery flow, electrocardiography, doppler effect, velocity profiles, unexposed, exposed arteries, 3333
- atherosclerosis, blood flow, blood pressure, hypertension, social behavior, implantation, mouse, 3335
- aorta pressure, blood pressure, exercise, heart catheterization, heart ventricle pressure, lung artery pressure, 3652
- artery pulse, carotid artery, driver, electroencephalography, pneumography, workload, electrocardiography, 3655
- aerial system, 3659
- body temperature, pulse modulation, coding, decoding, 220
- body temperature, large numbers of squirrels, 222
- body temperature, temperature, 223
- blood pressure, circadian rhythm, electrocardiography, right heart ventricle pressure, implantation, left heart ventricle pressure, implantable, monkey, 1098
- blood pressure, implantation, unrestrained animal, 1381
- body temperature, radiotracer, implantation, radiotransmitter, serum albumin i 125, rabbit, 1755
- blood pressure, exercise, vein pressure, 1761
- biomechanics, ergometry, muscle, sport, rowing, 1764
- birth, fetus, electrocardiography, 1768
- blood pressure, electrocardiography, metallurgy, occupational medicine, rheology, 1769
- body temperature, diver, heart rate, respiration, transmitter, ultrasonics, multichannel system, 1772
- blood pressure, simple system, dog, 2561
- body temperature, electrocardiography, electroencephalography, neurotransmitter, implantation, rat, 2562
- behavior, rocky mountains, 2567
- body temperature, thermometer, animals, 2568
- bladder pressure, monitoring, neurogenic bladder, volume transducer, management method, dog, monitoring bladder distension, 2753
- brain depth recording, epilepsy, temporal lobe epilepsy, 44 patients, 2760
- body temperature, temperature, implantation, 3 channel system, 2952
- body temperature, thermometer, implantation, 2953
- blood flow, electroencephalography, electromagnetic flowmeter, flowmeter, stress, neurotransmitter, electrocardiography, implantation, animal, 3321
- body temperature, electroencephalography, electromyography, oxygen tension, neurotransmitter, multichannel transmitter, 3322
- body temperature, electrocardiography, electroencephalography, rat, multichannel transmission, 3324
- blood pressure, body temperature, electrocardiography, heart disease, phonocardiography, respiration, neurotransmitter, multichannel system, 3330
- body temperature, temperature, 3643
- blood flow, neurotransmitter, 3644
- breathing rate, electromagnetic field, eyelid, movement, radiation hazard, restraining device, small animals, 3648
- breathing mechanics, diving, electromyography, sport, 3650
- blood flow, electrocardiography, heart rate, rheology, thorax, 3656
- blood flow, blood pressure, emotion, exercise, kidney blood flow, implantation, implantable transmitter 3657
- blood pressure, circadian rhythm, man, microcatheter technique, 3701
- computer, electrocardiography, telephone, telephone telemetry, low cost, 473
- computer model, digital computer, synchronous multiplexing system, 1791
- current meter, diode, fiberoscope, voltmeter, 2145
- computer, data processing, digital transmission, 2955
- clothing, electrocardiography, electromyography, environmental health, ergometry, heart rate, thermogenesis, work, 3327
- digital computer, terminology, 1415
- diving, phonocardiography, electrocardiography, pressure chamber, pressure transient, 6 channel system, 1767
- digital computer, digital filtering, modulation code, 1793
- digital filtering, frequency analysis, ultrasonics, 2569
- data processing, speech, digital transmission, 3051
- death, sudden death, heart tape recorder, electrocardiography, 3326
- data processing, digital filtering, 3338
- digital computer, ergometry, multichannel transmission, 3646
- electrocardiography, telephone, portable, 221
- ergometry, spirometry, sport, lung function, review, 647
- electromyography, intestine, pharmacology, smooth muscle, ureter, uterus, 1752
- electromyography, locomotion, muscle tone, stimulator, free moving, rabbit, 1753
- electrocardiography, electroencephalography, transmitter, implantation, 1756

- electroencephalography, nerve cell potential, spike, transmitter, nervous system, implantation, frequency modulation, implantable transmitter, 1757
- exercise, oxygen tension, respiration, 1759
- exercise, oxygen consumption, respiration, 1760
- electroencephalography, monitoring, electrocardiography, telemetry regulations, multichannel telemetry, 1762
- endoradiosonde, peptic ulcer, stomach acid, stomach ulcer, man, 2256
- emergency, medical care, traffic accident, trauma, 2954
- electroencephalography, epilepsy, long term eeg, 3323
- electric field, fish, heart rate, water temperature, noncontact sensing, trout, 3334
- environment, radio tracking, small creature, 3336
- electrocardiography, optical system, 3339
- electrocardiography, electroencephalography, ergometry, stress, man machine interaction, 3645
- ergometry, football, oxygen consumption, sport, work, 3647
- electrocardiography, heart arrhythmia, sport, 3649
- electrocardiography, work, child, adolescent, 3653
- fluoride, saliva, tooth contact, tooth plaque, 2723
- frequency converter, multiplier, spurious signal, 3315
- gamma radiation, iodine 125, radiotracer, implantation, albumin i 125, rabbit, 1497
- hunting, 2566
- heart rate, magnetic field, heart tape recorder, 3651
- heart rate, sport, training, self training, 3654
- intensive care, monitoring, reliability, 1597
- intracranial pressure, pressure measurement, 1754
- integrator, 2956
- inexpensive system, 3340
- lung ventilation, oxygen consumption, training, transmitter, multichannel system, 1771
- luminescence, enzyme, 2563
- modulator, transmitter, electrocardiography, 1770
- multichannel system, delta modulation, 1773
- mandible, position observation, 2248
- monitoring, alarm monitoring, two terminal module, 2564
- multivibrator, voltage controlled multivibrator, 3319
- model, public health service, 3658
- neurotransmitter, multichannel telemetry, animal, 3320
- neurotransmitter, electrocardiography, implantation, rat, implantable transmitter, 3325
- phase modulator, electric interference, 3337
- selective amplifier, electric filter, ceramic filter, 10 mhz, 178
- signal detection, pulsed sine wave, optimal detection, 899
- signal, relation, power, frequency, bandwidth, 2565
- temperature stability, 1382
- telephone telemetry, electrocardiography, 1766
- ultrasonic transducer, uterine tube, implantation, rabbit, 3720
- telephone**, ambulance, hospital, public health service, survey, 648
- computer, electrocardiography, telemetry, telephone telemetry, low cost, 473
- computer, medical record, speech, touch tone telephone, 1967
- deafness, hearing aid, hypacusis, intelligibility, telephone characteristics, 1508
- data transmission, survey, 1751
- data processing, digital computer, 1798
- digital computer, regulations, 2172
- data processing, digital computer, anisochronous network, 2173
- digital computer, errors, 2598
- data processing, digital computer, 2599
- data processing, digital computer, 2600
- data processing, digital computer, 2601
- data processing, digital computer, synchronous network, 2602
- electrocardiography, telemetry, portable, 221
- hearing, sound level measurement, loudness rating, 923
- telephone telemetry**, computer, electrocardiography, telemetry, telephone, low cost, 473
- electroencephalography, health service, leipzig area, 3726
- telemetry, electrocardiography, 1766
- telestimulation**, social behavior, speech, social signal recording, monkey groups, 390
- teletherapy**, radiation, radiotherapy, 3518
- television**, angiography, digital computer, heart performance, image intensifier, roentgenography, biplane roentgenography, 1207
- automation, computer, diagnosis, radiology, 2418
- blood pressure, data processing, densitometry, fluoroscopy, heart catheterization, roentgenography, display system, patient identification, 2 d representation, 1101
- blood flow, densitometry, dye dilution curve, image intensifier, roentgenography, flexible window size, diaphragm, 1588
- computer, digital computer, liver, scintigraphy, 483
- cineangiography, computer, left heart ventricle, 1977
- camera tube, plumbicon, 2434

- diagnosis, roentgen radiation, stomach, gyroscopic roentgen apparatus, 838
- darkness, scotopic vision, thermography, survey, 1121
- densitometry, heart, heart size, 1528
- digital computer, gait, walking, image processing, cdc 1700, 1981
- data reduction, vision, digital transmission, 2159
- data reduction, 2581
- data reduction, 2582
- data processing, data reduction, 2957
- infrared radiation, microscopy, high resolution, 1047
- image intensifier, roentgen radiation, modulation transfer function, 2791
- image intensifier, roentgen radiation, vidicon, camera tube, modulation transfer function, plumbicon, 2796
- laser, projector, display system, 1776
- laser, film camera, 2157
- laser, projector, light deflector, bragg cell, 2160
- laser, projector, light deflector, bragg cell, 2580
- microscopy, particle counter, 1393
- public health, radiation protection, roentgen radiation, safety act 1968, 19
- roentgen picture, modulation transfer function, 433
- roentgen picture, storage system, 2794
- signal noise ratio, pattern recognition, movement detection, man machine interaction, 1257
- sampling, picture phone, band width reduction, 1391
- vidicon, camera tube, 2151
- videophone, 3355
- videorecording, digital synchronizer, 3358
- television camera**, angiography, modulation transfer function, 3140
 - computer, preamplifier, signal noise ratio, 233
 - color television, compact color camera, 665
 - cathode ray oscilloscope, electron microscopy, image processing, image parameters, 988
 - color television, vidicon, bivicon, 1223
 - camera tube, array, 1395
 - color television, sony trinicon, 1402
 - color television, one camera tube, 2150
 - camera, combined system, 2587
 - cosmic radiation, oscilloscope, instrumentation recorder, 2702
 - infrared radiation, vidicon, 599
 - image intensifier, camera tube, 1397
 - solid state sensor, 1399
 - silicone, vidicon, return beam vidicon, 1400
 - semiconductor, charge coupling, 2586
 - vidicon, siemens xq 1200, silizium multidiode vidicon, 1
- temperature**, adductor muscle, avoidance behavior, conditioning, muscle fiber potential, locust, 1911
 - acetylcholine, calcium, fetus, heart muscle contractile force, noradrenalin, heart muscle contraction, measuring method, organ culture, mouse, 2731
 - body temperature, telemetry, 223
 - bath, heart muscle, peltier effect, waterbath, isolated heart muscle, method, 1734
 - body temperature, telemetry, implantation, 3 channel system, 2952
 - bolometer, radiation counting, dielectric bolometer, low temperature, 2994
 - body temperature, telemetry, 3643
 - choroid, light, mathematic model, retina, 549
 - contraception, monitoring, pregnancy, thermometer, 691
 - cell membrane permeability, electrolyte, electron, muscle spindle, elovich equation, temperature dependence, 892
 - choroid, retina, sun, solar observation, 1124
 - cooling, fluorescence, liver, mitogenesis, mouse, 1860
 - calorimetry, magnetic field, low temperature, 2624
 - cooling, thermometer, 3667
 - digital computer, model, sea pollution, sound, 3385
 - eye, light, mathematic model, retina, 819
 - gas absorption, infrared radiation, vacuum, 3018
 - humidifier, hypothermia, monitoring, 2294
 - humidity, microwave radiation, temperature measurement, density measurement, moisture measurement, 3420
 - heart ventricle, magnesium, heart muscle contraction, mollusc, 3703
 - infrared radiation, light, large area source, temperature dependence, 2677
 - light, radiometry, calibration, error, 3677
 - magnetic field, strain gauge transducer, denfoil 1831 ne, gauge factor, 960
 - muscle fiber, viscosity, microscopy, frog, 1675
 - muscle, muscle contraction, 2361
 - non linear system, electrothermal effect, 1804
 - tooth, thermally induced stresses, 755
 - viscosity, flow, flow system, thermochromic measurement, 1016
 - water, sound velocity, 3039

- water, sound velocity, 3434
- temperature control**, body temperature, monitoring, newborn, 846
- temperature measurement**, digital computer, minimum/maximum circuit, 1626
 - humidity, microwave radiation, temperature, density measurement, moisture measurement, 3420
- temperature transducer**, diode, semiconductor, thermometer, thermostat, 257
 - thermometer, semiconductor diode, 1019
- temporal cortex**, conditioning, direct current, electrostimulation, motor cortex, cat, 1908
- temporal discrimination**, hearing, 553
- temporal lobe**, hearing, perception, gold fish, temporal summation, 1285
- temporal lobe epilepsy**, brain depth recording, epilepsy, telemetry, 44 patients, 2760
- temporomandibular joint**, dentistry, maxilla sinus, radiodiagnosis, roentgen apparatus, film cassette, cassette holder, 3138
 - joint, recording system, 3697
- tendon**, biomechanics, extensor hallucis longus muscle, mechanical recovery, 2046
 - calcification, roentgen diffraction, ultrastructure, chicken, x ray diffraction, 414
 - collagen, relaxation, proton magnetic resonance, nuclear magnetic resonance spectrometry, cattle, 3597
 - reflex, stimulator, student laboratory, 2322
- tendon reflex**, achilles reflex, reflex time, 1108
 - elbow, motoneuron, movement, spinal cord, 1559
- tensile strength**, dentistry, biomaterial, 2254
 - skin, different regions of the body, test apparatus, 121 cadavers, 2037
- tension**, monitoring, muscle, muscle contraction, neuromuscular blocking, mechanical factor, simple device 3749
- tension headache**, electromyography, 6 cases, 1900
- tensor tympani muscle**, ear drum, middle ear muscle, reflex, acoustic reflex, 2056
- test**, electrocardiography, exercise, phonocardiography, heart tape recorder, voice, portable device, magnetic tape recorder, 3061
- tetraphenylborate sodium**, lipid membrane, membrane permeability, dielectric constant, membrane capacitance, 3225
- thalamus**, brain depth recording, computer program, parkinsonism, stereotaxic surgery, brain depth stimulation, probe location, pdp 12, 1631
 - brain depth recording, electrode implantation, lateral geniculate body, stereotaxic implantation, 1880
- thalamus nucleus**, mathematic model, nerve cell, nerve cell code, retina ganglion cell, visual system, coding distribution, cat, 2768
- thalassemia**, hysterectomy, vagina, aids, method, aids, methods, 3147
- therapy**, attitude, computer, health service, mathematic model, 3153
 - cancer, computer program, death, life, nonparametric k sample test, 1603
 - data processing, digital computer, drug, hodgkin disease, medical record, advanced disease, 33 cases, survival, prognosis, 2811
- thermal adaptation**, body temperature, exercise, thermometer, portable device, 2183
- thermal conductivity**, peltier effect, 1015
- thermal radiation**, laser, photographic film, sensitivity, 2966
- thermal stimulation**, pain, skin, sensitivity changes, 1313
- thermistor**, analog computer, densitometry, heart output, thermometer, time delay, delay correction, 3185
 - blood flowmeter, blood volume, flowmeter, quantification, 1882
 - bolometer, infrared radiation, thermography, chalcogenide glass, 3682
 - catheter, heart output, thermodilution curve, determination, detection site, 2730
 - electrode, stereotaxic surgery, brain depth stimulation, 3492
 - flowmeter, 2984
 - operational amplifier, thermometer, review, 3382
 - resistance thermometer, thermometer, high linearity, 693
 - thermometer, self heated thermistor, linearization, 692
 - thermometer, feedback system, linearization, 1430
- thermocouple**, amplifier, thermometer, graphic and visual recording, 260
 - calorimetry, digital computer, model, transient heat, 258
 - cooling, lymphocyte, cooling system, 3278
 - neutron detection, neutron radiation, 595
 - thermometer, selection guide, 1343
- thermodilution curve**, blood flow, 763
 - blood flow, blood flowmeter, blood vessel, heart output, determination method, 3060
 - catheter, heart output, thermistor, determination, detection site, 2730
 - computer, fick method, heart output, method comparison, dog, 3783
 - extracellular fluid, heart output, indicator dilution curve, lung edema, measurement method, dog, 3079
 - heart output, injection, indicator loss, correction factor, 2279
 - heart output, method, 2281
 - heart output, 2729
- thermodynamics**, breast cancer, skin, thermography, heat transfer, 14 carcinomas, intratumor and cutaneous infrared thermography, 1049
 - basal metabolic rate, body, cooling, conductance, 2874
 - entropy, thermodynamic equilibrium, entropy rise, 1282
 - genetics, metabolism, model, protein synthesis, ribonucleic acid synthesis, theory, 2052
 - heat conduction, model, peaceman rachford method, 548
 - information theory, statistics, task performance, no visual input, 906

- mathematic model, model, sodium pump, 2872
- nuclear magnetic resonance, varian ha 100, modification, adiabatic fast passage, 2681
- thermogenesis**, clothing, electrocardiography, electromyography, environmental health, ergometry, heart rate, telemetry, work, 3327
- thermography**, ancillary devices, pointer, focussing, 298
 - breast cancer, skin, thermodynamics, heat transfer, 14 carcinomas, intratumor and cutaneous infrared thermography, 1049
 - breast, breast cancer, 3519
 - bolometer, infrared radiation, thermistor, chalcogenide glass, 3682
 - darkness, scotopic vision, television, survey, 1121
 - infrared radiation, signal noise ratio, integrator, 663
 - infrared detection, infrared radiation, detector array, 724
 - infrared radiation, signal noise ratio, electric filter, modulation noise, 986
 - infrared radiation, signal processing, derivative thermography, 1141
 - infrared radiation, modulated light, radiometer, mechanical modulator, 1478
 - infrared radiation, photographic film, cu₂hgi₄, 2152
 - image converter, image intensifier, infrared radiation, up conversion, 2371
 - infrared radiation, display system, 2588
 - infrared radiation, external reference, calibration, 3528
 - modulation transfer function, 297
- thermoluminescence**, badge dosimeter, dosimetry, neutron radiation, thermoluminescence dosimeter, 1137
 - bone, cobalt 60, dosimetry, electron spin resonance, gamma radiation, powder, radiotherapy, bovine, deproteinized bone powder, 1589
 - cooling, glycerol, lysosome, microsome, mitochondria, 2006
 - cold, spectral recording, 2446
 - dosimetry, gamma radiation, linear energy transfer, lithium fluoride dosimeter, model, roentgen radiation, non linearity, 304
 - dosimetry, gamma radiation, neutron radiation, radiotherapy, ca so₄ tm, 834
 - dosimetry, 1136
 - dosimetry, environmental health, lithium fluoride dosimeter, nuclear instrumentation, nuclear radiation caso₄dy, 1496
 - dosimetry, lithium fluoride, manganese, activation by manganese, 2700
 - dosimetry, proton radiation, caso₄ mn phosphorus, 3032
 - dosimetry, neutron radiation, 6 lif, 7 lif, response, 3034
 - glow curve, simplified calculus, 911
 - nuclear radiation, glow curve, differential equation, numerical solution, 1812
 - relation, 2206
- thermoluminescence dosimeter**, badge dosimeter, dosimetry, neutron radiation, thermoluminescence, 1137
 - dosimetry, lithium fluoride dosimeter, critical observation, 305
- thermometer**, amplifier, thermocouple, graphic and visual recording, 260
 - amplifier, graphic and digital read out, 261
 - analog computer, densitometry, heart output, thermistor, time delay, delay correction, 3185
 - alternating current, direct current, germanium, resistance thermometer, cryogenics, 3384
 - body temperature, exercise, thermal adaptation, portable device, 2183
 - body temperature, telemetry, animals, 2568
 - body temperature, telemetry, implantation, 2953
 - body temperature, digital readout, 3049
 - contraception, monitoring, pregnancy, temperature, 691
 - cooling, temperature, 3667
 - diode, semiconductor, temperature transducer, thermostat, 257
 - digital voltmeter, honeywell vumatik, 2536
 - function generator, direct proportional, inverse proportional, absolute temperature, 975
 - infrared radiation, 1018
 - operational amplifier, thermistor, review, 3382
 - programmable, digital, 259
 - resistance thermometer, thermistor, high linearity, 693
 - refrigerator, dilution refrigerator, 1429
 - resistance thermometer, semiconductor, 2623
 - resistance thermometer, calibration, u 90k, 2983
 - skin temperature, contact thermometer, 1134
 - switch, thermostat, glass switch, 3387
 - thermostat, 640
 - thermistor, self heated thermistor, linearization, 692
 - temperature transducer, semiconductor diode, 1019
 - thermocouple, selection guide, 1343
 - thermistor, feedback system, linearization, 1430
- thermoreceptor**, cold stress, computer model, hypothalamus, preoptic area, skin temperature, environment temperature, 2 temperature input models, 2875
 - cold, perception, skin, skin temperature, stimulation level and duration, 3136
 - heating, microwave radiation, analysis, boa constrictor, 3500
- thermoregulation**, body temperature, mathematic model, review, 2720
- thermostat**, diode, semiconductor, temperature transducer, thermometer, 257
 - heating, process control, 1428

- switch, thermometer, glass switch, 3387
- thermometer, 640
- thigh**, ankle, artery obstruction, leg blood flow, plethysmography, measurement, 1088
- thin layer chromatography**, aminoacid, chromatography, drug, steroid hormone, vitamin, 3380
- thin layer gel filtration**, chromatography, computer program, electrophoresis, resolving overlapped and skewed peaks, 3541
- thoracic duct**, cannula, 3700
- thorax**, abdomen, fluoroscopy, occupational medicine, radiation protection, radiology, roentgen radiation, 1147
 - breathing mechanics, computer, rib, 872
 - blood flow, electrocardiography, heart rate, rheology, telemetry, 3656
- thorax impedance**, heart output, calculation, 770
 - impedance, measurement device, 2988
- thorax pressure**, displacement, gravity, lung, lung alveolus, lung expansion, mathematic model, pleura, finite element displacement analysis, 3672
- thorax radiography**, computer, diagnosis, lung cancer, roentgenology, case series, diagnosis, 466
- threshold**, hearing, acoustic reflex, 1676
- thrombocyte**, blood clotting, thrombogenesis, aorta balloon pump, elastomer, 80 cases, 2
 - blood, cell kinetics, electrokinesia, erythrocyte, lymphocyte, 3670
- thrombocyte aggregation**, blood, heart infarction, plasma, rheology, viscosity, shear stress, 1863
 - intravascular blood clotting, detection, quantitations, 1539
- thrombocyte count**, arterial carbon dioxide tension, arterial oxygen tension, arterial ph, extracorporeal circulation, oxygenation, plastic membrane, coronary artery bypass graft, 3m² lande edwards disposable oxygenator, 1877
- thrombocythemia**, atmosphere, infrared radiation, spectrometry, 3414
- thrombogenesis**, assisted circulation, blood clotting, aorta balloon pump, elastomer, pig, dog, in vitro, 3
 - blood clotting, thrombocyte, aorta balloon pump, elastomer, 80 cases, 2
 - blood vessel, biomaterial, production of biocompatible materials, 4
- thrombosis**, adventitia, heart valve prosthesis, stellite 21, waxy contamination, 1090
 - copper, prosthesis, histology, ultrastructure, dog, 1872
- thrombus**, brain artery aneurysm, magnetic field, stereotaxic implantation, magnetic controlled thrombosis, 1888
- thymidine h 3**, computer model, computer program, mitosis, plm curve, monte carlo simulation, 536
- thyristor**, converter, transient suppression, 1378
 - electronic switch, semiconductor, switch, power switch, merits, 955
 - insulator, electric hazard, non destructive method, 954
 - power supply, high voltage, 12v source, 208
 - power supply, electric motor, ac motor control, 976
 - power supply, avalanche rectifier, 1993
 - power supply, stabilized power supply, 3303
 - relay, application, 1222
 - square wave generator, spark machining, 212
- thyroid disease**, computer, data processing, medical record, numerical and logical method to thyroid medical records, 864
 - computer, diagnosis, 1181
 - computer, diagnosis, diagnosis, marseille, 3544
- thyroid function**, computer, iodine 131, technetium 99m, thyroid gland, method validation, 239 patients, 2808
- thyroid gland**, computer, iodine 131, technetium 99m, thyroid function, method validation, 239 patients, 2808
 - endoplasmic reticulum, golgi apparatus, iodine 131, microwave radiation, protein bound iodine, ultrastructure, animal, 3683
- thyroxine**, digital computer, liver, model, plasma, compartment model, distribution model, man, 886
- tibia**, bone, femur, growth, immobilization, vibration, age, bone piezoelectric potential, 132
 - bone, calcium, elasticity, femur, growth, vibration, rat, mechanical vibration, 823
 - bone, transducer, implantation, shear stress, monkey, 3237
 - golgi tendon receptor, knee, quadriceps jerk reflex, control system, grasshopper, 2311
- tibia fracture**, bone, fracture, polymethyl methacrylate, rabbit, 1214
- tilting**, cardiovascular system, deconditioning, hospitalization, servo controlled tilt board, 363
- time**, gamma radiation, spectrometry, time measurement, digital system, 2226
 - plotter, sum plotter, 2184
 - timer, random time interval generation, 639
 - time measurement, national bureau of standards, 2181
 - time measurement, timer, review, market survey, 2185
- time amplitude converter**, cobalt 60, gamma radiation, pulse height analysis, non linear pulse height, 732
 - coincidence, circuit characteristics, 734
 - nuclear radiation, error, 2139
- time delay**, analog computer, densitometry, heart output, thermistor, thermometer, delay correction, 3185
 - electrode, nerve cell, statistics, phase shift analysis, 2914
 - on line computer, process control, feedback system, 3365
- time discrimination**, auditory discrimination, auditory masking, binaural hearing, directional hearing, hearing, sound detection, 1692
- time interval**, digital computer, on line computer, time measurement, folded ramp technique, wide range

- time marker**, fluorescence, pulse generator, half life time, exponential increasing interval, 209
 - scintigraphy, scintillation camera, dynacamera, time reference markers, 1022
 - tape recording, chronometer, instrumentation recorder, 192
- time measurement**, digital computer, on line computer, time interval, folded ramp technique, wide range 2182
 - gamma radiation, semiconductor detector, ge li, timing system, 1021
 - gamma radiation, spectrometry, time, digital system, 2226
 - time, national bureau of standards, 2181
 - time, timer, review, market survey, 2185
 - timer, quartz timer, 2227
- timer**, counter, dead time compensation, 1064
 - coincidence counting, gamma radiation, semiconductor detector, ge hi, 2219
 - counter, reaction time, display system, 2315
 - gamma radiation, semiconductor detector, si detector, ge (li) detector, 2698
 - generator, stable crystal oscillator, 3668
 - integrated circuit, 3669
 - mass spectrometry, 992
 - pulse generator, voltage controlled delay, 2137
 - seconds, minutes, 263
 - time, random time interval generation, 639
 - time, time measurement, review, market survey, 2185
 - time measurement, quartz timer, 2227
 - viscometry, flow viscometer, 2626
- time sharing**, computer, blood analysis, pdp8-cdc-3200, 2399
 - digital computer, satisfaction measurement, 246
- time standard**, frequency standard, crystal oscillator, temperature compensation, 20
- tissue**, arterial carbon dioxide tension, arterial oxygen tension, brain, capillary, carbon dioxide tension, oxygen tension, 2635
 - body temperature, model, layered tissue, temperature distribution, 3445
 - cell, radiation hazard, ultrasonics, hazard threshold, 742
 - cell, gas, mathematic model, model, gas diffusion, inert gas, heterogeneous tissue, 1298
 - conductivity, model, semiconductor, nonlinear system, theory, 3618
 - dentistry, surgery, irrigation, tissue pressure, army medical irrigator, medical irrigator model 200, 3767
 - elasticity, model, 1280
 - finger, forearm, impedance, skin, 1270
 - gas, mathematic model, gas diffusion, inert gas, heterogeneous tissue, without perfusion, 1297
- tissue culture**, cell membrane potential, chloride, potassium, sodium, cell strain 1, 3259
 - microcinematography, nerve, nervous tissue, mobility, rabbit, 3724
- tissue equivalent**, depth dose, dosimetry, muscle, neutron radiation, phantom, radiotherapy, 1145
- tissue reaction**, artery, catheter, lead, vein, tissue reaction, dog, lead loss, 3707
- tissue typing**, computer program, leukocyte antigen hl a1, HL A system,
 - pitfalls in the use of isoantibodies, 851
 - computer program, genetics, immunology, 852
- titanium**, aluminum, band pass filter, chlorine, magnesium, roentgen radiation, 1 5 kev, 1059
 - bone, femur, aluminum oxide, attachment, electron microscopy, dog, 1581
 - bone, femur, growth, aluminum oxide,
 - 2-8 weeks implantation, cylindrical channels, electron microprobe, dog, 1638
 - stainless steel, vitallium, zinc, metal, corrosion, implantation, alloy, 1213
- titrimetry**, calorimetry, microcalorimeter, 3386
- tomato**, fruit, infrared radiation, light reflection, 2210
- tomography**, computer memory, echography, ultrasonics, display system, image processing, color presentation, 2161
 - kidney arteriography, kidney cancer, device, 45 cases, 3137
- tone**, hearing, hearing threshold, carp, 1922
 - sound generator, stimulator, tape recording, cassette recorder, touch tone equipment, 1902
- tongue**, 1151
 - electromyography, palate, speech, method, electropalatography, 2291
 - mouth, radiology, retractor, inflatable retractor, 1592
 - tactile sensitivity, touch, vibration, 2722
- tonic stretch reflex**, biceps brachii muscle, electromyography, frequency response characteristics, 417
- tonometry**, body weight, circadian rhythm, intraocular pressure, calibration, rabbit, 3119
 - medical student, hand held device, 3507
 - sex, skin, quantification, 3755
- tooth**, bone, dentin, enamel, shear stress, 1671
 - capacitance transducer, displacement transducer, multiplier, tooth movement, linearization, 3628
 - dentistry, parallelometer, 2255
 - dentistry, holography, laser, introduction, 3011
 - gingiva, morphology, 1521
 - lateral movement recording, 340
 - temperature, thermally induced stresses, 755
- tooth contact**, fluoride, saliva, telemetry, tooth plaque, 2723
- tooth plaque**, caries, ph, ph electrode, 826

- fluoride, saliva, telemetry, tooth contact, 2723
- tooth pulp**, dentistry, electrostimulation, stimulator, reliability, 3449
- total hip prosthesis**, bone, cement, plastic, durability, wear, friction, 7 types of hip prosthesis, 3083
 - friction phenomena, 3234
 - plastic, metal, joint prosthesis, friction, frictional wear, several thermoplastic materials, pin and disk machine, dry and wet environment, 2352
- touch**, blindness, braille, reading machine, pattern recognition, character recognition, braille output, 404
 - deafness, hearing, speech, tactile sensitivity, pitch control, 822
 - electrostimulation, tactile discrimination, 385
 - electric switch, touch switch, 502
 - tactile sensitivity, tongue, vibration, 2722
- toxicity**, ceramic, soft tissue, corrosion, glass, implantation, subcutis,
 - biocompatibility, histology, electron microscopy, rat, 1639
 - muscle, poly(vinyl chloride), stainless steel, teflon, biomaterial, rabbit muscle, histopathology, 3566
- toxicology**, computer, pharmacology, APL/360 system, 1611
 - computer, data processing, drug toxicity, retrieval, 1958
 - cage, food intake, pharmacology, powered diet, mouse, rat, 2240
- tracer**, model, radiotracer, 426
- traffic**, deafness, driver licence, hearing, hypacusis, evoked acoustic nerve response, 411
 - deafness, driver licence, hearing, hypacusis, vestibular system, evoked acoustic nerve response, 3739
- traffic accident**, emergency, medical care, telemetry, trauma, 2954
- training**, 1850
 - heart rate, sport, telemetry, self training, 3654
 - lung ventilation, oxygen consumption, telemetry, transmitter, multichannel system, 1771
- transducer**, amplifier, arm prosthesis, electromyography, myoelectric control, prosthesis, 1131
 - arm, eye movement, orthosis, control system, 3131
 - bone, tibia, implantation, shear stress, monkey, 3237
 - ceramics, batio3, characteristics, 3281
 - electret, microphone, properties, vateria indica, 2514
 - model, receptor, 139
 - mathematic model, mechanoelectric transducer, membrane, generator, 3587
 - piezoelectric transducer, non linearity, 11
 - skin, implantation, transderma, 167
 - tremor, recording, 825
 - ultrasound transducer, 10
- transfer**, numerical method, 3569
- transfer**, photomultiplier, signal noise ratio, modulation transfer function, biasing circuit, 3411
- transfer**, radiation detection, nuclear radiation, steep gradient, 2922
- transformation**, alternating current, audio frequency, measurement, 2129
 - artifact, artifact reduction, cable, electrocardiography, electroencephalography, electromyography, 3674
 - direct current, ratio transformer, 1335
 - power supply, ferrite, transformer design, 3312
- transient response**, digital filtering, impulse response, 1004
 - flowmeter, logarithmic ratemeter, 968
 - resistance capacitance active filter, electric filter, analysis, 621
- transillumination**, enucleated eye, eye, eye tumor, egg candler, 1916
- transmitter**, body temperature, diver, heart rate, respiration, telemetry, ultrasonics, multichannel system, 1772
 - electrocardiography, electroencephalography, telemetry, implantation, 1756
 - electroencephalography, nerve cell potential, spike, telemetry, nervous system, implantation, frequency modulation, implantable transmitter, 1757
 - lung ventilation, oxygen consumption, telemetry, training, multichannel system, 1771
 - modulator, telemetry, electrocardiography, 1770
- transport**, ambulance, trauma, victim, accident, stockholm, 748
- transport equation**, anisotropic scattering, 2858
 - blood flow, entry flow equation, 2486
 - cell membrane permeability, mathematic model, membrane, 2 component system, 1648
 - flow, flux corrected transport, 2488
 - laplace law, radiation, 277
 - lung, lung alveolus, lung diffusion, respiration, boundary condition, 2299
 - metabolism, oscillation, compartment model, feedback system, multi compartment model, 908
 - membrane permeability, diffusion, transport augmentation, 2878
 - neutron radiation, thermal neutron, 2706
 - neutron radiation, cold neutrons, 3036
- trauma**, ambulance, victim, accident, transport, stockholm, 748
 - emergency, medical care, telemetry, traffic accident, 2954
- traumatic shock**, breathing rate, heart rate, lung ventilation, skin temperature, 1537
- treadmill**, biomechanics, running, walking, overground versus treadmill running, 16 runners, 3236
- tremor**, computer, intention tremor, recording and analysing, 1130
 - task performance, vision, clinical test, 395
 - transducer, recording, 825
 - task performance, tremor quantification, 2789
- trepphine**, cornea transplantation, surgical microscope, 3114

trigeminal nerve nucleus, mechanoreceptor, model, nerve cell potential, racoon rhinarium, 143
trigger, interferometer, laser, ultracentrifugation, pulsed laser, 714
trigger mechanism, 1449
 -artifact reduction, oscilloscope, 969
 -multivibrator, 981
tritium, air pollution, environmental health, ionization meter, radiation, radiation monitoring, 3029
 -carbon 14, radioisotope, uridine h 3, liquid chromatography, 3042
 -environment, water h 3, australia, 3379
 -proportional counter, radiotracer, low back ground, 735
tritium uridine, cytoplasm, electrostimulation, glia cell, nerve cell, nerve fiber, ribonucleic acid, lysine h 3
 incorporation, tritonia, 1558
trocar, coil, laparoscopy, 847
tropomyosin, actin, calcium, excitation contraction coupling, laser, muscle fiber, troponin,
 quasielastic scattering, 512
tropoin, actin, calcium, excitation contraction coupling, laser, muscle fiber, tropomyosin,
 quasielastic scattering, 512
trunk, body movement, head, walking, translational motion, 3132
trypanosoma, cell, digital computer, microscopy, allergy, phase contrast microscopy, position indicator,
 pattern recognition, 3770
tube, airway, airway resistance, bronchus, model, airway flow, branched tube, 113
 -artery, artery flow, artery model, birefringence, flow, reynold number, arterial branching, 119
 -artificial kidney, blood urea nitrogen, hemodialysis, pumpless, large diameter tubing, 2300
 -esophagus stricture, 1075
 -kidney perfusion, kidney preservation, nylon, oleate, plastic, poly(vinyl chloride), silastic,
 organ perfusion, tube choice, rabbit kidney, 3091
tungsten, coating, microelectrode, platinum, glass, 275
 -electron microscopy, microscopy, molybdenum, cathode, flashing effect, 953
 -light, spectrometry, radiometry, lamp, spectral power distribution, 1456
 -microelectrode, nerve cell potential, nerve fiber potential, 394
 -microelectrode, needle, production, 705
 -microelectrode, nerve cell, localization method, 3111
tunnel diode, magnet, nuclear magnetic resonance, generator, 2690

ultracentrifugation, interferometer, laser, trigger, pulsed laser, 714
ultrafiltration, hemodialysis, hemodialysis membrane, commercially available coils, 1548
ultrasonics, 836
 -averaging, 236
 -ameba, cell membrane, ehrlich ascites tumor cell, microstreaming, mouse, 325
 -artery, lumen visualization, 769
 -bone, elasticity, bovine, fresh and dried bone, 323
 -breast, echography, obstetrics, ophthalmology, improvement, 840
 -body temperature, diver, heart rate, respiration, telemetry, transmitter, multichannel system, 1772
 -bladder puncture, bladder aspiration, suprapubic aspiration, child, 18 cases, 3085
 -chromosome, fetus monitoring, safety, 438
 -cell, radiation hazard, tissue, hazard threshold, 742
 -computer memory, echography, tomography, display system, image processing, color presentation, 2161
 -chromosome, lymphocyte, lymphocyte culture, 2232
 -digital computer, echography, display system, 3d display, 431
 -deoxyribonucleic acid, aqueous solution, 1842
 -digital filtering, frequency analysis, telemetry, 2569
 -echography, orbit, isodensitometric curve, 403
 -echography, holography, display system, 3 d representation, 427
 -echography, review, 841
 -echography, image processing, 1142
 -echography, tissue interface, 1591
 -echography, scanning echography, 2368
 -echography, image processing, aberration, scanning imaging system, 2709
 -echography, transmitter receiver coupling, 3436
 -echography, sound, doppler effect, scattering, analysis, 3603
 -knife, microtome, diamond knife, ultramicrotome, 2239
 -kidney, liver, magnetic field, mitochondria, oxidative phosphorylation, rat, 2637
 -lens, 3689
 -microscopy, drosophila melanogaster, simultaneous image presentation, 1387
 -pressure transducer, 1736
 -power supply, highly isolated device, 2237
 -pericardiocentesis, ultrasonic transducer, guided pericardiocentesis, ultrasound transducer, 3066
 -sound absorption, cw technique, 324
 -spectrometry, low temperature, 744
 -sound absorption, sound velocity, resonator, liquid, 745
 -sound generator, vibrating blade, 1845
ultrasonic transducer, pericardiocentesis, ultrasonics, guided pericardiocentesis, ultrasound transducer,

- telemetry, uterine tube, implantation, rabbit, 3720
- ultrasound transducer**, transducer, 10
- ultraviolet filter**, infrared filter, liquid filter, 2205
- ultraviolet radiation**, argon, helium, krypton, light, xenon, 2676
 - band pass filter, optic filter, alkali alloy, 1046
 - camera, monochromator, spectrometry, 2578
 - chemoluminescence, erythrocyte membrane, iron, lipid peroxide, 2847
 - discharge, eye, infrared radiation, laser, light, radiation hazard, retina, halogen lamp, lesion, lamp, evaluation, 3746
 - eye trauma, infrared radiation, light, 296
 - erythema, skin, evaluation device, 827
 - fluorescence, scintillator, visible emission, 722
 - fluorescence, protein, 3681
 - gas, light absorption, photometer, liquid, 1045
 - hydrogen, light, spectrometry, lyman discharge, 2675
 - infrared radiation, light, radiometer, black body, self calibrating, 596
 - light transmission, photometer, fm 85, 1044
 - light, photolysis, xenon lamp, osram 150 w, intensifier, 2661
 - light, reflectometry, fourier transform, 3019
 - light, 2 channel, 3022
 - measurement, device, 2208
 - power supply, electrical stabilization, 1474
 - photomultiplier, photoelectric cell, mgf2, lif cathode, 3403
 - radiation trauma, survey legislation, 725
 - spectrometry, spectrophotometry, fourier transform, design, 1473
 - spectrometry, calibration, 2664
 - vuv standard, 1475
- umbilical artery**, angiography, aortography, power injection aortography, 1540
- underwater hearing**, directional hearing, diver, diving, hearing, sound detection, minimum audible angle, underwater, 3600
- uranium**, air pollution, fluorescence, fluorine, roentgen radiation, spectrometry, siemens srs, 1511
- urea**, computer model, henle loop, kidney tubule absorption, urine osmolarity, water, countercurrent multiplier system, 1307
- ureter**, analog computer, cloaca, computer model, intestine absorption, urine, bird, 2030
 - bladder, removal device, 1897
 - electromyography, intestine, pharmacology, smooth muscle, telemetry, uterus, 1752
 - kidney, mathematic model, model, ureter flow, analytical solutions, 571
 - kidney, kidney artery, exteriorization method modification, dog, 2303
 - micturition, photoelectric measurement system, dog, 2754
- ureter flow**, kidney, mathematic model, model, ureter, analytical solutions, 571
- urethra**, bladder, micturition, function test, 383
- urethra flow**, micturition, continuous recording, 1546
- uric acid**, blood urea nitrogen, computer, serum, relationship, 3769
- uridine h 3**, calcium, magnesium, metabolism, nerve cell, potassium, ribonucleic acid, sodium, mollusc, 2718
 - carbon 14, radioisotope, tritium, liquid chromatography, 3042
- urinary tract diversion**, urine sampling, device, postoperative use, 2755
- urine**, analog computer, cloaca, computer model, intestine absorption, ureter, bird, 2030
 - artificial bladder, silastic, experiment, sheep, 2302
 - brain, magnetic field, 17 hydroxycorticosteroid, histology, monkey, 1815
 - body, computer program, digital computer, plutonium, sebeach, 2420
 - urine sampling, midstream urine, midstream urine separator, 3086
 - urine incontinence, detection system, anti incontinence, 3089
- urine incontinence**, external management device, male, 380
 - urine, detection system, anti incontinence, 3089
- urine osmolarity**, computer model, henle loop, kidney tubule absorption, urea, water, countercurrent multiplier system, 1307
- urine sampling**, individual mouse, 3482
 - micturition, newborn, alarm monitoring, 437
 - urinary tract diversion, device, postoperative use, 2755
 - urine, midstream urine, midstream urine separator, 3086
- urobilin**, colorimetry, liver disease, spectrometry, spekol, 3481
- uterine cervix**, cobalt 60, dosimetry, filter, gamma radiation, lead, radiotherapy, uterine cervix carcinoma, cancer, 3514
 - internal cervical os diameter measurement, 2750
- uterine cervix carcinoma**, cobalt 60, dosimetry, filter, gamma radiation, lead, radiotherapy, uterine cervix cancer, 3514
- uterine cervix incompetence**, needle, suturing, 378
- uterine cervix smear**, cell, cell nucleus, cell nucleus detection, vickers cytology apparatus, 1544
- uterine tube**, telemetry, ultrasonic transducer, implantation, rabbit, 3720
- uterus**, electromyography, intestine, pharmacology, smooth muscle, telemetry, ureter, 1752
- uterus**, fetus, heart rate, monitoring, 2375

vacuum, 3383

- blood sampling, tail, vacuum device, rat, 1865
- gas absorption, infrared radiation, temperature, 3018
- process control, partial vacuum regulator, 695
- scanning electron microscopy, ultra high vacuum, 672
- valve, gate valve, 265

vacuum pump, contamination, electron microscopy,

polymer growth reduction, fluorocarbon oxide pump fluid, 3662

vacuum sealing, cryogenics, seal, 3198

vagina, cesium 137, cobalt 60, radiotherapy, radium, disposable afterloading colpostat, 1935

- hysterectomy, thalassemia, aids, method, aids, methods, 3147

vagina speculum, retractor, speculum, 1156

vagotomy, arterial ph, blood pressure, depressor nerve, mathematic model, pressoreceptor reflex, 2071

vagus nerve, electrocardiography, heart muscle conduction system, heart muscle potential,

intracardiac electrocardiography, dog, 2266

- heart rate, hodgkin huxley equation, model, phase detection, phase sensitive model, 2089
- heart arrhythmia, heart muscle excitability, conducting corridor, 2265
- heart, heart muscle conduction system, heart fibrillation, heart rate, origin and fibrillation arrest, 2743
- heart rate, model, feedback system, warner model, 3072

valve, bladder sphincter, neurogenic bladder, silastic spigot valve, 3084

- vacuum, gate valve, 265

van der waals force, model, molecule, muscle, electrostatic charge, electrolyte system, cylindrical particle, 3575

- model, solution, isotropic rod, retarded interaction, 3598

variance, acute abdomen, diagnosis, digital computer, 552 patients, 3546

variance, model, mortality, multivariate analysis, statistics, meteorology, 2449

variance, process control, statistics, tablet, pharmaceutic industry, pharmaceutical tablet manufacturing, 2840

- statistics, variance homogeneity, 2451

variance analysis, model, perception, statistics, 54

varicap, h.f. properties, 1989

- parameter measurement, 16

- parameter, 1992

vasoconstriction, clamp, homeostasis, surgery, 3763

vasodilatation, artery, plethysmography, measuring method, 3711

- newborn, oxygen tension, oxygen tension electrode, skin, 2192

vasopressin, aldosterone, body water, cardiovascular system, computer model, henle loop, kidney tubule,

mathematic model, model, renin, sodium, kidney proximal convoluted tubule, 2756

vectorcardiography, blood, lung, mathematic model, model, electrocardiography, dipole model,

inhomogeneity, 354

- computer, electrocardiography, mathematical definition, 1205

- coronary angiography, digital computer, exercise, ischemic heart disease, vcg quantitative processing, 2405

- computer, newborn, heart right ventricle, 100 newborns, 2407

- computer, computer program, electrocardiography, 3166

- computer, mathematic model, 3559

- computer, electrocardiography, 3777

- digital computer, electrocardiography, mass screening, 2412

- electrocardiography, 2082

- model, electrocardiography, body shape correction, 126

vein, artery, catheter, lead, tissue reaction, tissue reaction, dog, lead loss, 3707

- cardiovascular system, computer model, model, 122

- prosthesis, teflon, prosthesis patency, piglets, 2727

vein blood flow, airway pressure, artificial ventilation, cava vein, cava vein blood flow, inferior cava vein

lung ventilation, variously adjusted engstrom respirator, subdiaphragmatic flow pattern, dog, 2738

- airway pressure, artificial ventilation, cava vein, cava vein blood flow, inferior cava vein,

lung ventilation, pressure control, subdiaphragmatic flow pattern, dog, bennett respirator, 2739

- drop recorder, pneumatic amplification, 2740

- artery flow, flowmeter, doppler effect, 1083

vein pressure, blood pressure, exercise, telemetry, 1761

ventilating laryngoscope, anesthesia, artificial ventilation, laryngoscopy, 1152

ventilator, artificial ventilation, modification, bennett ma 1, 3718

vestibular system, body posture, electrostimulation, gravity, labyrinth, 60

- caloric vestibular test, hearing, magnetic field, microwave radiation, semicircular canal, 3126

- deafness, industrial health service, noise, occupational deafness, vibration, 815

- deafness, driver licence, hearing, hypacusis, traffic, evoked acoustic nerve response, 3739

- laser, selective ablation, monkey, 803

viability, microorganism, model, nocardia corallina, slide culture, 2714

vibration, averaging, ear drum, hearing, holography, cat, time averaged holography, 92

- basement membrane, ear drum, hearing, mossbauer effect, amplitude, phase, monkey, 99

- bone, femur, growth, immobilization, tibia, age, bone piezoelectric potential, 132
- bone, calcium, elasticity, femur, growth, tibia, rat, mechanical vibration, 823
- blood pressure, bradycardia, heart rate, industrial health service, skin temperature, 694 workers, switzerland, 1868
- carbon dioxide, model, 3687
- deafness, industrial health service, noise, occupational deafness, vestibular system, 815
- ear drum, holography, photography, 1684
- fiberscope, microscopy, measurement method, amplitude and rate, 2979
- hearing, hearing threshold, noise, 401
- hearing, noise, diesel engine, 3112
- heart, heart muscle contractile force, heart movement, radiology, water immersion, cat, 3708
- image, lens, wide aperture lens, 1696
- tactile sensitivity, tongue, touch, 2722
- vibration transducer**, accelerometer, displacement transducer, movement, calibration, 600
- vibrator**, interchangeable head, 326
- victim**, ambulance, trauma, accident, transport, stockholm, 748
- videophone**, television, 3355
- video recording**, angiography, angiocardiology, trends, 829
 - angiography, computer, heart left ventricle volume, 2424
- videorecording**, audiovisual system, 2539
- videorecording**, endoscopy, pharynx, oral endoscope, videotape, 3075
 - education, audiovisual system, long playing disc, 3660
- videorecording**, television, digital synchronizer, 3358
- videoscanning**, computer, placenta, 1202
- vidicon**, analog digital converter, computer memory, analog buffer, 676
 - color television, television camera, bicon, 1223
 - infrared radiation, television camera, 599
 - image intensifier, roentgen radiation, television, camera tube, modulation transfer function, plumbicon 2796
 - silicone, television camera, return beam vidicon, 1400
 - semiconductor, cathode, silicon cold cathode, 3663
 - television camera, siemens xq 1200, silizium multidiode vidicon, 1
 - television, camera tube, 2151
- virus**, dosimetry, heavy particle radiation, enzyme, 709
 - photometry, optic density, continuous recording of optic density, automatic recording, 2187
- viscoelasticity**, brain, elasticity, mathematic model, in vivo, 81
 - blood, elasticity, viscosity, 1522
 - bladder, mathematic model, 2070
 - hysteresis, lung, lung model, mathematic model, lung alveolus surface tension, lung hysteresis, 67
- viscometry**, recording, viscosity, automatic recording, zimm crothers viscometer, 2985
 - timer, flow viscometer, 2626
- viscosity**, absolute measurement, error, 2186
 - artery, artery wall, elasticity, model, noradrenalin, smooth muscle, 3594
 - blood, elasticity, viscoelasticity, 1522
 - blood, blood volume, dextran, plasma, rheology, sodium chloride, in vivo, dog, 1523
 - brain, elasticity, mathematic model, relaxation response in vivo, 1561
 - blood, heart infarction, plasma, rheology, thrombocyte aggregation, shear stress, 1863
 - blood rheology, erythrocyte, model, liquid drop model, 1864
 - blood flow, model, plasma, plasma substitute, oscillatory flow, 3058
 - bone, elasticity, model, bovine bone, 3238
 - computer, computer model, digital computer, flagella, model, sliding filament theory, 58
 - chorda tendinea, elasticity, heart muscle, heart papillary muscle, heart valve, mechanical properties, man, 1275
 - capillary, elasticity, serum, measurement, 1672
 - muscle fiber, temperature, microscopy, frog, 1675
 - recording, viscometry, automatic recording, zimm crothers viscometer, 2985
 - temperature, flow, flow system, thermochromic measurement, 1016
- vision**, accelerator, atmospheric radioactivity, cell nucleus, nitrogen, retina, 1118
 - arm, computer model, learning, visual adaptation, 1259
 - area spatial function, 1689
 - accommodation, refraction, continuous measurement, 3503
 - accommodation, continuous measurement, 3740
 - binocular vision, visual acuity, summation, 925
 - brightness, light adaptation, visual masking, 2892
 - brightness, light, visual discrimination, point light source, 3251
 - brightness, model, model application, 3606
 - brightness, evoked cortical response, evoked visual response, contrast, volunteers, 3607
 - binocular vision, depth perception, monocular vision, quantifying perspective effect, 3742
 - computer, future eye care, 446
 - contour, contrast, compensation measurement method, 799
 - color vision, cornea, retina cone, spectral sensitivity, monkey, 817
 - cornea contact lens, eye, lens, myopia, eye glasses, 17,000 cases, progressive myopia, comparison, 1116
 - convergence, retina, stereoscopic vision, visual field, asymmetric convergence, frame of reference, 1690

- color vision, photometry, heterochromatic photometry, methods, comparison, 2773
- cornea, eye, retina image, 2893
- color blindness, color vision, retina cone, spectral sensitivity, spectrometry, visual pigment, 2895
- chromatic adaptation, color vision, critical flicker fusion, light adaptation, monochromatic light, 3249
- data processing, mathematic model, retina ganglion cell, retina image, optical and neuronal principles, 802
- depth perception, model, rotation, visual illusion, 1563
- digital computer, digital filtering, image processing, binary image, 1688
- data reduction, television, digital transmission, 2159
- data processing, device, visual data, 3125
- detection of simple and compound parafoveal stimuli, 3605
- dark adaptation, lateral inhibition, 3608
- extrafoveal vision, retina, retina fovea, 28 observers, 2062
- eye movement, perception, retina, visual system, man machine interaction, total system evaluation, 2063
- fiberscope, light absorption, conical optical fiber, 3680
- glare, disability glare, population study, 2891
- hearing, loudness, motion sickness, reaction time, visual illusion, auditory reaction time, 1117
- hearing, task performance, display system, man machine interaction, audio visual display, 3218
- information theory, memory, model, task performance, display system, man machine interaction, 42
- illumination, light, 100-800 lux., 2775
- information, model, pattern recognition, modulation transfer function, structured image, unstructured image, 2894
- light modulator, response function, sine, square wave, 100
- light adaptation, retina, contrast, psychophysical retinal organization, 101
- landolt ring, pattern recognition, 1903
- luminance, reaction time, stimulus interval, 2483
- model, modulation transfer function, 106
- model, retina image, modulation transfer function, image processing, image distortion, 109
- modulation transfer function, 716
- measurement, 1290
- model, photoreceptor, scotopic vision, 2 dimensional image receptor, 1293
- mathematic model, visual illusion, pattern recognition, 1564
- microscopy, optimal magnification, 2666
- mathematic model, band with consideration, multiple channel model, 2899
- optic filter, visual acuity, 2897
- pattern recognition, mueller phenomenon, algorithm, 40
- pattern recognition, binary classification, 104
- pattern recognition, static information, dynamic information, 107
- photopic vision, retina fovea, 560
- statistics, pattern recognition, 1292
- task performance, tremor, clinical test, 395
- visual masking, visual system, signal noise ratio, critical band width, 563
- visual acuity, exposure duration, 3248
- vision test**, color vision, illumination, illumination box, 1915
- visual acuity**, binocular vision, vision, summation, 925
 - dark adaptation, luminance, time change, absolute threshold change, 1701
 - landolt ring, projector, zoom lens, 2336
 - lens, prism, fresnel lens, 2482
 - mathematic model, contrast, 1295
 - optic filter, vision, 2897
 - vision, exposure duration, 3248
- visual adaptation**, arm, computer model, learning, vision, 1259
- visual aid**, accommodation, bioengineering, blindness, eye, 2338
 - blindness, reading aid, human factors, design, 811
- visual cortex**, electrode, brain depth stimulation, engineering feasibility study, 391
 - nerve cell, retina receptive field, superior colliculus, visual field, cat, 2310
- visual discrimination**, brightness, light, vision, point light source, 3251
 - color, color discrimination, methods and instruments, fish, 783
 - colorimetry, color vision, nonlinear system, color discrimination, chromaticity diagram, 3253
 - mathematic model, pattern recognition, honeybee, 1291
- visual field**, automatic tester, 813
 - campimetry, 399
 - color vision, mathematic model, complex system, 810
 - convergence, retina, stereoscopic vision, vision, asymmetric convergence, frame of reference, 1690
 - directional vision, goggle device, 1924
 - nerve cell, retina receptive field, superior colliculus, visual cortex, cat, 2310
 - perimetry, method of determining, 800
- visual illusion**, depth perception, model, rotation, vision, 1563
 - hearing, loudness, motion sickness, reaction time, vision, auditory reaction time, 1117
 - interpretation, 2328
 - mathematic model, vision, pattern recognition, 1564
- visual masking**, brightness, light adaptation, vision, 2892

- vision, visual system, signal noise ratio, critical band width, 563
- visual orientation**, pattern recognition, flight, fly, 3496
- visual pigment**, color vision, light absorption, photoreceptor, retina, retina cone, anomalous dispersion, 565
 - computer, spectrophotometry, insect, frog, 2348
 - color blindness, color vision, retina cone, spectral sensitivity, spectrometry, vision, 2895
 - colorimetry, color vision, light adaptation, spectral sensitivity, visual system, 2898
 - spectrophotometry, review, microspectrometry, 1566
- visual stimulation**, hippocampus, nerve cell potential, auditory stimulation, brain depth stimulation, brain programmed stimulation, cat, 3103
 - nerve cell potential, stimulator, generator, moving stimulus, 3509
- visual system**, camera, photography, panoramic photography, 652
 - colorimetry, color vision, light adaptation, spectral sensitivity, visual pigment, 2898
 - digital computer, nerve cell potential, nerve cell network, animal, 876
 - eye movement, perception, retina, vision, man machine interaction, total system evaluation, 2063
 - eye, growth, refraction, rabbit, 2347
 - light, stray light reduction, 1447
 - lens, optic cement, moisture resistant cement, 1820
 - light detection, photo electric system, non linear pulse, 2440
 - lens, aspherical surface, centering, 2960
 - mathematic model, noise, insect, 2090
 - movement perception, optic lobe, fundamental mechanism, insect, 2327
 - mathematic model, nerve cell, nerve cell code, retina ganglion cell, thalamus nucleus, coding distribution, cat, 2768
 - modulated light, distance meter, 2981
 - modulation transfer function, image processing, theory, 3410
 - photometry, spectrometry, additional system, 3000
 - vision, visual masking, signal noise ratio, critical band width, 563
- vitalium**, stainless steel, reaction of dissimilar metals, dog, 493
 - stainless steel, titanium, zinc, metal, corrosion, implantation, alloy, 1213
- vitamin**, aminoacid, chromatography, drug, steroid hormone, thin layer chromatography, 3380
- vitamin a aldehyde**, beta carotene, photochemistry, polyene, flash photolysis, triplet states, 2719
- vocal cord**, frequency analysis, spectrometry, speech, sift, algorithm, fundamental frequency, 2477
 - model, speech, two mass model, 558
- voice**, electrocardiography, exercise, phonocardiography, heart tape recorder, test, portable device, magnetic tape recorder, 3061
 - speech, spinal cord lesion, wheelchair, voice command, 1133
- voltage clamp**, cell membrane potential, electrode, microelectrode, 140
 - hodgkin huxley equation, model, sodium, diffusion, 1264
 - heart muscle, heart muscle membrane, hodgkin huxley equation, nerve fiber, sucrose gap, early current analysis, 1279
 - membrane potential, initial current density, 1317
 - mathematic model, motoneuron, nerve, survey, 2490
 - purkinje fiber, short fiber producing method, 2744
 - theory and practice, 2844
- voltage frequency converter**, clock, 979
 - instrumentation recorder, high accuracy, 641
 - low cost, 980
 - simple, 1% accuracy, 2546
- voltage stabilizer**, alternating current, rms stabilization, 194
- voltmeter**, 1363
 - analog digital converter, integrator, digital, 626
 - analog digital converter, ohmmeter, triphasic converter, 1375
 - analog digital converter, digital voltmeter, high precision, 2127
 - averaging, display system, digital display, 3297
 - current meter, diode, fiberoscope, telemetry, 2145
 - current meter, phase meter, power measurement, six port coupler, 2190
 - current meter, diode, indicator, display system, linear indicator, 3768
 - dosimetry, electret, microphone, piezoelectric transducer, electret device, 1991
 - digital voltmeter, ratiometer, 2126
 - electrostatic voltmeter, 2123
 - high voltage, 30 kv, kerr effect, 2191
 - intestine potential, miniature digital voltmeter, 3393
 - power supply, voltage monitoring, 2506
 - rms voltmeter, selection guide, 2942
 - scanning electron microscopy, electron probe, acceleration potential, 706
- volume transducer**, bladder pressure, monitoring, neurogenic bladder, telemetry, management method, dog, monitoring bladder distension, 2753
- voluntary movement**, antagonist muscle, h reflex, muscle, reciprocal innervation, spinal cord, reciprocal inhibition, 1549
 - elbow, bandwidth, 416
 - eye movement, saccadic eye movement, analysis, 809
 - electromyography, model, movement, muscle, muscle contraction, 2866
- vowel**, hearing, speech, 2060

- hearing, speech, signal noise ratio, consonant, vowel, consonant, 2479
- learning, pitch perception, speech, pitch discrimination, fundamental frequency, synthetic speech, sound spectrograms, 2876

wakefulness, electroencephalography, model, sleep, 1715

walking, biomechanics, orthopedics, plaster, bandage, mechanical properties, 2870

- body movement, head, trunk, translational motion, 3132
- biomechanics, running, treadmill, overground versus treadmill running, 16 runners, 3236
- cerebellum, locomotion, purkinje cell, cerebellum anterior lobe, cat, 3738
- digital computer, gait, television, image processing, cdc 1700, 1981
- dorsal spinocerebellar tract, nerve cell potential, spinocerebellar tract, cat, 3737
- gait, locomotion, model, 1272
- gait, locomotion, shoe, 1580
- gait, simple recording method, 3751

warburg apparatus, carbon dioxide, computer program, glucose, glycolysis, lactic acid, metabolism, pyruvic acid, 3158

waste, transfer unit, 2107

water, alcohol, bladder wall permeability, osmotic pressure, 1898

- action potential, air, membrane potential, phospholipid membrane, electric potential, 2077
- body temperature, cooling, cooling clothing, efficiency and effectiveness of 11 water cooled suits, 160
- carbon, oxygen, pion radiation, radiobiology, radiotherapy, radiation absorption, pi meson, capture site 950
- computer model, henle loop, kidney tubule absorption, urea, urine osmolality, countercurrent multiplier system, 1307
- chloride, model, muscle, nuclear magnetic resonance, proton, sodium, toad, 2785
- cell membrane permeability, automatic optic recording, toad, 2848
- cell membrane permeability, gravitational stress, mathematic model, compartment model, calculation, 3579
- freezing, mathematic model, membrane, 3577
- infrared radiation, refraction, refraction index, sodium chloride, 286
- infrared radiation, light absorption, refraction index, temperature dependence, 723
- membrane permeability, mechanical approach, 1269
- model, neutron radiation, neutron scattering, nelkin model, 3037
- temperature, sound velocity, 3039
- temperature, sound velocity, 3434

waterbath, bath, heart muscle, peltier effect, temperature, isolated heart muscle, method, 1734

water h 3, environment, tritium, australia, 3379

water immersion, heart, heart muscle contractile force, heart movement, radiology, vibration, cat, 3708

water pollution, air pollution, ecology, environmental health, sociology, engineering aspect, 507

- air pollution, fluorescence, mercury, fluorescence detector, 694
- light absorption, light transmission, alpha meter design, 1596
- phosphorus, suspension, activated carbon, water treatment, 1846

water system, bacterium, population density, sampling, statistics, negative binomial distribution, 2011

water temperature, electric field, fish, heart rate, telemetry, noncontact sensing, trout, 3334

water treatment, phosphorus, suspension, water pollution, activated carbon, 1846

water vapor, aerosol, infrared radiation, 1481

- air pollution, environmental health, infrared radiation, laser, spectrometry, hydrogen cyanide, 1510

wave, bone, bone density, mathematic model, 2040

waveform generator, function generator, staircase, 216

wave generator, 1366

welding, electron microscopy, microwelding, 3624

wenckebach period, electrocardiography, heart block, mathematic model, 943

wheatstone bridge, output linearization, 1032

- phase detection, selective amplifier, automatic tuning, 2520
- recording, electric conductance, chemical kinetics, 3568

wheelchair, bath, 413

- speech, spinal cord lesion, voice, voice command, 1133

wilcoxon test, signal detection, statistics, 1253

wood, bone, fracture, model, characterization of bone substance, bovine canine and anthropoid bone, histology, scanning electronmicroscopy, 1271

work, clothing, electrocardiography, electromyography, environmental health, ergometry, heart rate, telemetry, thermogenesis, 3327

- ergometry, football, oxygen consumption, sport, telemetry, 3647
- telemetry, electrocardiography, child, adolescent, 3653

workload, artery pulse, carotid artery, driver, electroencephalography, pneumography, telemetry, electrocardiography, 3655

wrist, electrostimulation, latent period, median nerve, nerve potential, stimulation artifact, sensory nerve, 948

writing, hand, movement, recording, 1926

xenon, argon, helium, krypton, light, ultraviolet radiation, 2676
 -flash lamp, light, gigawatt lamp, 2649
 -power supply, 720
xenon lamp, flash lamp, photolysis, 600 joule, 2660
 -light, photolysis, ultraviolet radiation, osram 150 w, intensifier, 2661
xenon 133, battery, scintillation counting, heart muscle blood flow, battery powered device, 3467
 -chemodectoma, computer, lung blood flow, lung ventilation, lung function, 1208
 -handling system, 1937
 -lung ventilation, pleura pressure, non linear distribution theory, 373
 -liver blood flow, radioiodinated human serum albumin, sodium iodide i 131, 764
 -proportional counter, nuclear radiation, gas amplification, 1442
xeroradiography, breast tumor, computer, breast lesion, classification, 120 lesions, 60 malignant, 60 benign
 1614

yeast, cell, nucleotide, plasmalemma, protein, ribonuclease,
 cooperative conformational membrane rearrangement, yeast, 2462
yttrium 88, cesium 137, cobalt 57, cobalt 60, gamma radiation, manganese 54, mercury 203, sodium 22,
 tantalum 182, semiconductor detector, americum 241, calibration, 2693

zeitgeber, circadian rhythm, oscillation, self sustained oscillation, synchronization, 2000
zener diode, integrated circuit, power supply, temperature, compensation, 3310
zinc, stainless steel, titanium, vitallium, metal, corrosion, implantation, alloy, 1213
zoom lens, landolt ring, visual acuity, projector, 2336
 -mirror, mirror tunnel, 1828

4 aminohippuric acid, radioisotope, iodohippurate sodium i 131, clearance, edetic acid cr 51, 3516

INDEX OF AUTHORS

(figures refer to abstract numbers)

- | | | |
|--------------------------|------------------------|----------------------|
| 711 Abbattista N. | 292 Aldrich J.E. | 3087 Andreasen M.M. |
| 3183 Abbink F. | 3317 Aldridge S.F. | 3088 Andreasen M.M. |
| 1072 Abbott C.E. | 211 Aleixandre V. | 2309 Andres P.F. |
| 367 Abbott J. | 3022 Aleksandrov V.V. | 299 Andrews C.L. |
| 72 Abbrecht P.H. | 3115 Alekseev N.P. | 657 Andrews H.C. |
| 1598 Abdrakhmanov Z.N. | 3010 Alekseyev A.M. | 1587 Andrews H.C. |
| 553 Abel S.M. | 79 Alexander D.M. | 2597 Andrews M.C. |
| 2443 Abramovici F. | 1351 Alexander J.W. | 3007 Andreyev A.G. |
| 1619 Abrial J.R. | 2143 Alexander J.W. | 1473 Andreyev A.I. |
| 3293 Acar C. | 2218 Alexander P. | 2649 Andreyev S.I. |
| 1636 Ackerman A.J. | 383 Alexander S. | 74 Andriacchi T.P. |
| 1614 Ackerman L.V. | 3615 Algvere P. | 2379 Andrzejczuk J. |
| 2385 Ackermann G. | 2348 Ali M.A. | 173 Angel R.W. |
| 539 Ackroyd M.H. | 3373 Aliev M.R. | 2931 Angell J.B. |
| 2857 Adam J. | 1888 Alksne J.F. | 2301 Angeloff A. |
| 1769 Adamache A. | 2181 Allan D.W. | 1368 Angelov I.M. |
| 3655 Adamache A. | 1292 Allazetta A. | 2684 Angerman N.S. |
| 2924 Adamchuk V.K. | 2246 Allen D.O. | 1458 Angstrom A.K. |
| 2634 Adams A.P. | 3402 Allen E. | 767 Angus J.A. |
| 1063 Adams F. | 3631 Allen G.I. | 1099 Angus J.A. |
| 2132 Adams F.E. | 1778 Allen J.B. | 2867 Ankiewicz J. |
| 3151 Adams G.E. | 1543 Allen R.J. | 3593 Anliker M. |
| 2760 Adams J.E. | 1659 Allen R.W. | 2193 Annan W. |
| 1009 Adams R.B. | 2351 Allyn M.R. | 2851 Annayev B. |
| 700 Adams R.J. | 3033 Almond P.R. | 138 Anninos P.A. |
| 440 Adelberg M. | 1734 Almqvist C.M. | 2921 Anninos P.A. |
| 1977 Adelman A.G. | 1461 Alon Y. | 3619 Anninos P.A. |
| 2807 Adler N.E. | 3162 Alperovitch A. | 827 Antal A. |
| 1558 Adzhimolayev T.A. | 592 Alpert J. | 3108 Antik A.P. |
| 1779 Afanaseva A.L. | 1826 Alphonse G.A. | 1061 Antoku S. |
| 2013 Afifi A.A. | 2200 Altaiskaya A.V. | 1841 Antonini M. |
| 2421 Afifi A.A. | 1132 Altenbach J.S. | 2517 Anzalone B. |
| 2732 Afonso S. | 3097 Altman F. | 1243 Aoki M. |
| 269 Agarkova N.A. | 148 Altmann G. | 3080 Aoyagi T. |
| 1327 Agarwal G. | 3011 Altschuler B.R. | 3489 Appel E. |
| 250 Aggarwal J.K. | 3456 Aitshuler J.H. | 237 Apter J.T. |
| 682 Aggarwal J.K. | 3456 Altshuler T.L. | 1085 Arabia M. |
| 2639 Aggarwal M.D. | 3026 Alves M.A.F. | 3012 Arakawa E.T. |
| 1786 Aggashyan R.V. | 2075 Amari S.I. | 1592 Aral I.M. |
| 3022 Agranov K.I. | 3662 Ambrose B.K. | 3783 Arfors K.E. |
| 653 Agroskin L.S. | 1101 Ameling W. | 3776 Arimizu N. |
| 1703 Aharony A. | 875 Amick Corkill J.A. | 1717 Arleevesky I.P. |
| 3515 Ahlback S. | 1690 Amigo G. | 1219 Armeniades C.D. |
| 2244 Ahlquist N.C. | 2814 Amor H. | 3759 Armstrong D.I. |
| 2616 Ahlstrom D.H. | 3141 Amthor M. | 945 Arndt R.A. |
| 1035 Ahmed K.I. | 2418 Anacker H. | 1317 Arndt R.A. |
| 57 Ahmed N. | 3745 Ananin V.F. | 1275 Arnold G. |
| 275 Ainsworth A. | 183 Anday F. | 2038 Arnold G. |
| 2476 Ainsworth W.A. | 1477 Andermann G. | 2046 Arnold G. |
| 933 Airapetyan S.N. | 1365 Anderson A.E. | 1310 Aroesty J. |
| 3531 Aitchison R.A. | 2396 Anderson A.J.B. | 2738 Arola M.K. |
| 593 Aitken G.J.M. | 2817 Anderson A.J.B. | 2739 Arola M.K. |
| 1405 Aitken G.J.M. | 3357 Anderson A.P. | 2710 Aronow S. |
| 2601 Akerboom J.P.M. | 1593 Anderson D.U. | 2744 Aronson R.S. |
| 2219 Akimov Y.K. | 3769 Anderson E.E. | 2098 Arshavskii V.V. |
| 1483 Akkerman P. | 2767 Anderson E.M. | 3108 Arshavskii V.V. |
| 2053 Akopian A.I. | 146 Anderson J.A. | 2766 Arshavskii Y.I. |
| 2263 Akutsu T. | 51 Anderson J.L. | 3737 Arshavskii Y.I. |
| 1992 Al Charchafchi S.H. | 2950 Anderson J.R. | 2757 Arshavsky Y.I. |
| 1825 Albares D.J. | 3019 Anderson L.W. | 3129 Arshavsky Y.I. |
| 395 Albers J.W. | 3143 Anderson M.M. | 354 Arthur R.M. |
| 2789 Albers J.W. | 3510 Anderson M.S. | 1962 Arthur R.M. |
| 852 Albert E. | 38 Anderson N.H. | 3166 Arvedson O. |
| 3492 Alberts W.W. | 881 Anderson R. | 666 Asakawa K. |
| 3731 Alberts W.W. | 1166 Anderson R.E. | 3210 Asch R. |
| 2424 Alderman E.L. | 2219 Andert K. | 2405 Ascoop C.A. |

2445 Ashby W.R.	3608 Baker H.D.	1064 Bartosek J.
1390 Ashcheulov Y.V.	3231 Baker K.J.	1111 Basar E.
2012 Ashford J.R.	1737 Baker L.E.	2312 Basar E.
1518 Ashizawa S.	2988 Baker L.E.	2915 Basar E.
2865 Ashley C.C.	2716 Baker R.T.K.	2037 Basch A.
2246 Ashmore J.	24 Baker R.W.	3204 Basden A.
2085 Ashworth B.	1242 Baker R.W.	1746 Basiladze S.G.
2690 Aslam J.	2200 Bakhshiev N.G.	2928 Basmajian J.V.
2680 Aslan E.	2514 Balakrishnan K.G.	557 Bass H.E.
782 Assadi I.	2541 Baldin B.J.	1201 Basse Cathalinat B.
187 Asyle B.	1381 Baldinger E.	1582 Bassett C.A.L.
2705 Atac M.	1610 Ball M.J.	3209 Bassett C.A.L.
1694 Atal B.S.	1056 Balling P.	1593 Bassingthwaite J.B.
3365 Atkinson P.	422 Bally E.	2311 Bassler U.
62 Atlan G.	3702 Baltaxe H.	650 Basyayeva L.I.
63 Atlan G.	344 Baltieri G.	472 Batchlor C.
3073 Atlan G.	1761 Balwanz M.	3173 Batchlor C.D.
2583 Atoda N.	672 Banbury J.R.	2419 Bates R.H.T.
2829 Atsuta M.	3185 Bancho N.	1892 Batson G.A.
430 Attix F.H.	2248 Bando E.	3705 Battagin R.
1839 Atwater H.F.	3604 Banks M.S.	2986 Battes R.J.
883 Au T.	501 Barak M.	932 Battocletti J.H.
157 Auble R.L.	246 Baram G.	450 Baudisch J.
1332 Auble R.L.	3683 Baranski S.	1471 Bauer E.
3426 Auble R.L.	2021 Barbanel I.S.	557 Bauer H.J.
864 Aurrán Y.	2210 Barber H.N.	1678 Bauer J.
1581 Auslaender B.A.	3696 Barbier J.Y.	3473 Bauer R.D.
1638 Auslaender B.A.	3661 Barczak R.J.	3344 Bauer T.J.
1885 Austen W.G.	3479 Barer D.H.	3521 Bauerle H.
3566 Autian J.	2922 Barfield W.D.	19 Baugh Jr W.C.
3692 Avseenko N.V.	913 Bargeton D.	403 Baum G.
3005 Aydarov T.K.	2296 Bargeton D.	934 Baum O.V.
3648 Ayivorh S.C.	3074 Bargeton D.	3324 Baumann I.
3651 Ayivorh S.C.	1127 Barigant P.	2521 Baumwolspinner M.
156 Ayling K.R.	2935 Baril M.	1781 Bayer R.
2013 Azen S.P.	258 Barkalow B.H.	1811 Bayer R.
2421 Azen S.P.	1998 Barker H.A.	1835 Bayer R.
	755 Barker Jr R.E.	2649 Baykov O.G.
984 Baba K.	2841 Barnabas J.	2168 Bayliss J.
2077 Babakov A.V.	2842 Barnabas J.	2867 Bayourthe L.
3486 Babb T.L.	1688 Barnard T.W.	1449 Bazarian A.
3502 Babighian G.	3221 Barnes F.N.	200 Beach E.
1194 Babigian H.M.	3379 Barnes J.	2949 Beach E.
1012 Babil S.	1672 Barnett Barnett B.	3634 Beach E.
2668 Babonas G.A.	328 Barnett E.	2420 Beach S.A.
550 Bacardi R.	3554 Barnett G.O.	706 Beaman D.R.
1056 Bach Andersen J.	1407 Barney G.C.	3455 Beard R.B.
3330 Bachmann K.	2290 Barold S.S.	1776 Beasley J.D.
3553 Bachmann K.	60 Baron J.B.	1495 Beattie R.J.D.
3652 Bachmann K.	3725 Baron V.D.	1524 Beaussart J.L.
2351 Bachrach R.Z.	3248 Baron W.S.	1979 Beaver W.L.
524 Backhausen W.J.	222 Barr R.E.	1175 Becher H.
1623 Bacus J.W.	1033 Barreto E.	1176 Becher H.
1514 Bader H.	86 Barrett T.W.	1562 Becht J.
2756 Badke F.	278 Barrett T.W.	3200 Bechtel N.G.
1312 Badzhinyan S.A.	3244 Barrett T.W.	1201 Beck C.
2495 Badzhinyan S.A.	2654 Barskaya Y.G.	2259 Becker E.D.
1816 Baglin J.E.E.	228 Barskiy I.Y.	1198 Becker H.
493 Bagnall B.G.	2959 Barskiy I.Y.	3155 Becker H.
2751 Bagrov Y.Y.	3179 Bartels H.	1496 Becker K.
3613 Bagrov Y.Y.	2208 Barth J.	1507 Becker K.
2622 Bahl S.K.	3466 Barth J.	2216 Becker M.
1128 Bahniuk E.	3432 Bartholoma K.P.	424 Becker M.H.
3179 Bahr G.F.	1617 Bartholomay A.F.	107 Becker P.W.
900 Baianu I.	2005 Bartholomay A.F.	1193 Beckett R.S.
3226 Baianu I.	1134 Bartholomew B.A.	1637 Beckham C.A.
1090 Baier R.E.	700 Bartlett J.T.	1060 Beckingham E.
2726 Baillet J.	3467 Bartoli A.	3536 Beckman H.
211 Bailon L.A.	716 Barton N.P.	996 Bedford J.
3367 Bajoga B.G.	732 Barton R.D.	3285 Bedri Y.
937 Baker C.M.	1063 Bartosek J.	2252 Begg T.W.

2854 Behnken D.W.	2733 Bernhard A.	3199 Black G.G.A.
857 Beiser M.	2801 Berni A.J.	2148 Black M.F.
1959 Beiser M.	3169 Berni A.J.	1181 Black R.
1733 Belcic I.	2830 Bernstein E.	1542 Black S.C.
2955 Bell D.	1059 Bernstein M.J.	3707 Black Schaffer B.C.
3332 Bell D.	2893 Berny F.	724 Blackburn H.
554 Bell D.W.	2767 Berry M.	2435 Blackburn J.
3396 Bell E.E.	3274 Bert J.	868 Blackburn J.P.
537 Bell G.I.	413 Berthault F.	2384 Blacker H.M.
159 Bellman R.	1813 Bertl W.	2300 Blagg C.R.
2100 Bellman R.	605 Bertolaccini M.	2308 Blagodatova E.T.
3730 Belluzzi J.D.	3354 Bertram Jr W.J.	897 Blahut R.E.
651 Belyakova N.S.	2586 Bertram W.J.	3234 Blaimont P.
1832 Belyakova V.V.	1529 Bertrand C.A.	3133 Blaine H.L.
1076 Ben Sasson S.	1631 Bertrand G.	2310 Blaivas A.S.
405 Ben Tovim N.	1174 Bertrand H.A.	1432 Blanchard W.C.
2997 Ben Zeev D.	2820 Bertrand J.J.	2048 Blange T.
1199 Bench R.W.	34 Berzins G.	1115 Blankenagel A.
1971 Bender M.A.	3474 Beschauer B.	1334 Blankenhorn P.R.
2220 Benderskii V.A.	3763 Beschauer B.	1201 Blanquet P.
1707 Benedek G.B.	2357 Beschle R.G.	2629 Blaser E.M.
434 Beneken J.E.W.	290 Bespalov V.I.	3785 Blaser P.
1978 Beneken J.E.W.	1534 Bette L.	2860 Blaurock A.E.
3472 Beneken J.E.W.	2769 Betz A.L.	760 Bleich H.L.
1769 Benetato G.	2364 Beukema W.J.	1612 Bleich H.L.
3655 Benetato G.	2032 Beunen G.	3534 Bleicher P.
886 Benetazzo L.	1382 Beurrier H.R.	369 Bleifeld W.
857 Benfari R.C.	2267 Bevan J.A.	2728 Bleifeld W.
1959 Benfari R.C.	1085 Bevilacqua S.	774 Blick E.F.
1676 Benguerel A.P.	834 Bewley D.K.	3212 Bliss E.M.
1677 Benitez L.D.	6 Bews J.	338 Bloch R.
398 Benoit H.J.	1503 Beynon T.D.	2965 Blok A.S.
1122 Benson C.T.	2706 Beynon T.D.	1802 Blomeyer P.
1169 Benson E.S.	3036 Beynon T.D.	3623 Blomeyer P.
1170 Benson E.S.	1558 Bezruchko S.M.	1704 Bloor B.M.
1171 Benson E.S.	1717 Bezuglov V.K.	2444 Blottner S.
1172 Benson E.S.	3767 Bhaskar S.N.	1669 Blowers D.H.
1173 Benson E.S.	210 Bhatia A.	942 Blum B.
2182 Benson R.A.	638 Bialkowski J.	834 Blum E.
3713 Bentley D.J.	2469 Bially T.	1889 Blumenfeld W.
1816 Bentz Jr E.J.	2696 Bianchetti G.	2071 Blumenstein B.
3127 Beppu H.	3179 Bibbo M.	2622 Bluzer N.
3516 Berberich R.	3236 Bickett P.	517 Blythe J.H.
1189 Berezkin D.P.	634 Bienkowski A.	2788 Blyumenfeld L.A.
2251 Berg G.	1777 Bieringer R.J.	1081 Bocian E.
1424 Berg G.J.	2412 Bierwolf L.G.	1233 Bock J.
2407 Berg K.L.M.	2948 Bigbie S.E.	3087 Boe C.
3250 Berger A.	277 Biggs F.	3088 Boe C.
3099 Berger L.	1832 Biller L.N.	3762 Boeck F.W.
3207 Berger M.A.	371 Binard J.E.C.	2177 Bogach P.G.
1491 Berger M.J.	371 Binard W.	2563 Bogdanski K.A.
1989 Berglund C.N.	3703 Binet P.	1437 Bogner R.E.
2975 Bergmann G.	389 Binnie C.D.	29 Bogumil R.J.
474 Bergmans J.	751 Biondi R.J.	1475 Bohm W.
3461 Bergsmann O.	532 Bioul G.	1497 Bojsen J.
2074 Bergstrom R.M.	1262 Bioul G.	1755 Bojsen J.
1509 Bergveld P.	10 Biquard P.	830 Bok B.
3699 Berk P.D.	2836 Birenbaum L.	1229 Bolsterli M.
2495 Berkinblit M.B.	1106 Birnbaum D.	1653 Bolton J.R.
2757 Berkinblit M.B.	1859 Birnbaum D.	2686 Bolton J.R.
2766 Berkinblit M.B.	208 Birtles A.B.	3286 Bolz L.H.
3737 Berkinblit M.B.	489 Birtles C.J.	945 Bond J.D.
3129 Berkinblith M.B.	2902 Biscar J.P.	1698 Bond R.L.
1119 Berland O.	459 Bischet G.	810 Bongard M.M.
3245 Berlin C.I.	393 Bishop Jr A.O.	1077 Bonichon Meynard F.
2701 Berlmann I.B.	3186 Bishop S.A.	2413 Bonner R.E.
2591 Berman R.P.	3682 Bishop S.G.	2488 Book D.L.
237 Berman S.A.	3713 Bivona Jr J.C.	1882 Bookstein J.J.
2985 Bernengo J.C.	1573 Bixler H.A.	97 Boomsliker P.C.
2372 Berner O.	60 Bizzo G.	2992 Boone R.
689 Berner R.E.	1765 Black Cleworth P.	1800 Boorstyn R.R.

326 Booth G.	871 Brady J.V.	2303 Brown R.E.
430 Booth L.F.	559 Brady P.T.	2861 Brown T.R.
3324 Borbely A.A.	1730 Braggins D.W.	346 Brown W.H.
762 Boretos J.W.	16 Bramer B.	1894 Broyer M.
1653 Borg D.C.	1463 Brandes R.G.	1192 Bru A.
1904 Borg E.	66 Brandi G.	3529 Brubacher P.
3710 Borgnis F.	571 Branson H.R.	3508 Brubaker R.F.
484 Borgstedt H.H.	127 Branston N.M.	722 Bruce R.
2488 Boris J.P.	3192 Brattain W.	228 Brumberg Y.M.
1966 Borkat F.	3511 Brauer D.	2710 Bruner J.M.R.
3271 Bormann M.	311 Brauer F.P.	3030 Bruninx E.
3157 Borner K.	1563 Braunstein M.L.	1043 Brunsting A.
481 Borner P.	3071 Braunwald E.	2197 Brunsting J.R.
3181 Borner W.	762 Braunwald N.S.	2111 Bruscaglioni R.
3249 Bornstein M.H.	1883 Brawley R.K.	283 Bryanskaya G.M.
1292 Borsellino A.	294 Br��re J.M.	3282 Bryant H.W.
1471 Bortner M.H.	295 Breare J.M.	3433 Bryant H.W.
3451 Bos A.L.	252 Breeze E.G.	3021 Bryngdahl O.
3195 Bosch W.	3350 Breglia D.R.	878 Brzezinski A.M.
2272 Boschero A.C.	2009 Breitmeyer M.O.	3358 Bucciarelli F.V.
312 Boschung P.	2358 Brekelmans F.E.M.	1435 Buchalter D.N.
3343 Boseck S.	1885 Brenner B.J.	2403 Buchanan K.D.
1466 Boshoff M.C.	140 Brennecke R.	2733 Buchheit H.
2702 Bosia G.	3090 Brenner B.M.	3466 Buchholz W.
1283 Boston J.R.	3240 Brenner S.L.	259 Buckley D.J.
1763 Boter J.	1008 Bresler P.I.	1189 Budanova N.A.
2274 Boter J.	1045 Bresler P.I.	1341 Budde W.
3144 Boter J.	3505 Breslin C.W.	1342 Budde W.
1035 Bottrill D.O.	3695 Brettel R.	1344 Budding R.W.
2939 Bouchard R.J.	1542 Bretthauer E.W.	2417 Buell J.
572 Boudrot R.	1813 Breunlich W.	332 Buevich V.A.
2139 Boulter J.F.	3389 Briggs W.E.	3694 Bugyi B.
1577 Bouman M.A.	1364 Brignell J.E.	545 Bukatina A.Y.
2633 Bourgeois J.	1862 Brim L.H.	2289 Bunag R.D.
1049 Bourjat P.	927 Brinck A.G.	2904 Buoncristiani J.F.
3519 Bourjat P.	832 Briney S.	3617 Bur A.J.
2869 Bourland H.M.	460 Brink B.	3038 Buras B.
776 Bourland J.D.	2259 Brinley Jr F.J.	2737 Burbage A.M.R.
1727 Bourland J.D.	3736 Brittain F.	2053 Burdin V.I.
2988 Bourland J.D.	2175 Brockman D.M.	854 Burger H.G.
2406 Bourne J.R.	536 Brockwell P.J.	1429 Burgess A.E.
1108 Bourne P.R.	1649 Brockwell P.J.	3599 Burghardt H.
3083 Bousquet G.	1205 Brodda K.	406 Burian H.M.
2460 Boutros Toni F.	3559 Brodda K.	3017 Burke P.
312 Bovet E.	2718 Brodskii V.Y.	162 Burke R.E.
1073 Bowden J.A.	768 Brody D.A.	1648 Burkhardt K.L.
960 Bower D.I.	2917 Brody D.A.	2430 Burli A.
961 Bowers H.C.	3306 Broeker B.	3789 Burli A.
2346 Bowers M.	3415 Broersma S.	1544 Burn G.P.
741 Bowley A.R.	58 Brokaw C.J.	3625 Burn J.I.
3054 Bowman H.S.	1273 Brokaw C.J.	3428 Burns K.B.
692 Bowman M.J.	3781 Brolin I.	2199 Burnsed D.J.
116 Bowman R.H.	370 Brombolich L.	2015 Burrows P.M.
1630 Bowne G.W.	3435 Bronson N.R.	998 Burrus C.S.
612 Bowron P.	2811 Brook J.	1128 Burstein A.H.
2750 Boyd I.E.	21 Brooke S.	1337 Burton A.L.
333 Boyd R.K.	3344 Brookeman V.A.	2384 Burton C.
2816 Boyer A.L.	2424 Brooker J.Z.	2293 Burton G.W.
2227 Boynton B.	1658 Brooks L.W.	2598 Burton H.O.
2773 Boynton R.M.	3493 Bross R.	870 Burton M.E.
2531 Bozic S.M.	1988 Brothers J.S.	322 Buschmann W.
1882 Braak C.A.	3419 Brousseau R.	3372 Bush A.M.
1626 Brach E.J.	3448 Broviac J.W.	3031 Bushnin Y.B.
2951 Bracho S.	1565 Brown H.J.	832 Bushong S.C.
1852 Bradham G.B.	2688 Brown I.M.	886 Busnardo B.
1510 Bradley C.C.	1070 Brown J.H.U.	1101 Bussman W.D.
2642 Bradley J.W.	1897 Brown J.L.	1588 Bussmann W.D.
380 Bradley W.E.	3624 Brown J.N.	2728 Bussmann W.D.
1893 Bradley W.E.	1374 Brown J.P.	605 Bussolati C.
2753 Bradley W.E.	1514 Brown O.B.	630 Butler J.R.
3089 Bradley W.E.	2233 Brown R.	1336 Butler M.M.

1294 Butslov M.M.	3345 Carteau A.J.P.	3048 Chato J.C.
597 Butterfield A.W.	49 Carter M.W.	418 Chatterji S.
1189 Butyagin M.R.	1895 Carter N.W.	2983 Chattle M.V.
2088 Buysman J.R.	1852 Carter Sr H.T.	2872 Chauvet G.
285 Buzhinskiy A.N.	1192 Carton M.	763 Chavas A.
1154 Bykoff Z.	3026 Carvalho M.J.T.	1448 Chavchanidze V.V.
3207 Bylander E.G.	87 Carvellas T.	117 Chen P.H.
1495 Byrne J.	1381 Casadei F.W.	1812 Chen R.
596 Byrne P.O.	3094 Case R.	3411 Chen T.M.
	2650 Case W.E.	50 Chen Y.
476 Cabassa N.	3348 Cashion J.D.	518 Chen Y.
1913 Cadariu G.	3099 Casler J.A.	2018 Chen Y.D.
428 Cagle Jr F.W.	463 Casper K.	607 Cheney G.T.
1515 Cagnetti P.	2656 Casperson L.W.	1740 Cheng E.H.C.
2442 Caianiello E.R.	3459 Cassel J.	130 Cheng L.C.
2795 Cain D.G.	2191 Cassidy E.C.	131 Cheng R.C.
2170 Cain J.B.	1768 Castelfiori S.	2959 Chepik O.F.
1366 Cakulev T.I.	1236 Casti J.L.	2039 Cherneikin V.A.
3673 Caldwell W.H.	2290 Castillo R.	374 Cherniack R.M.
2204 Calkins J.L.	1624 Castle J.	3561 Cherniack R.M.
1902 Callaway E.	3704 Cathignol D.	65 Chester E.H.
2603 Callaway J.	427 Caulfield H.J.	106 Chesters M.S.
3119 Callaway S.	2 Caulfield J.B.	2913 Chetaev A.N.
2905 Calloud J.M.	2710 Cavicchi R.V.	581 Chetayev A.N.
142 Calvert T.W.	2896 Cavanaugh C.R.	2096 Chetayev A.N.
2768 Calvert T.W.	698 Cawthorne C.	1427 Chhatwal H.L.
1622 Calvin W.H.	2625 Ceric V.	1518 Chi P.H.
1983 Calvin W.H.	2673 Ceric V.	1980 Chiang S.T.
2087 Calvin W.H.	1036 Cesnak L.	2888 Chien C.S.
2325 Calvin W.H.	3667 Cesnek Y.	2681 Chien M.
2995 Camhy Val C.	1701 Cetica M.	117 Chien S.
1633 Campbell G.	2897 Cetica M.	2859 Chien S.
62 Cannet G.	3016 Chackerian Jr C.	927 Childers D.G.
63 Cannet G.	8 Chadwick R.B.	1005 Childers D.G.
1975 Cannon T.M.	1312 Chailakhyan L.M.	1263 Childers D.G.
1072 Cannon T.W.	1651 Chailakhyan L.M.	2735 Chismadjev Y.A.
566 Cantor D.G.	2495 Chailakhyan L.M.	885 Chitashvili R.Y.
1524 Canussio V.	2047 Chalant C.	1662 Chitti Babu C.
3490 Capobianco S.	3537 Chalkley T.F.	2152 Chivian J.S.
1408 Cappellini V.	1813 Chalupka A.	2072 Chizmadzhev Y.A.
2194 Capra N.	33 Chamberlain L.J.	2907 Chizmadzhev Y.A.
3715 Cardinaud J.P.	3331 Chamberlain L.J.	2909 Chizmadzhev Y.A.
1815 Carey R.J.	2954 Chambers W.A.	1863 Chmiel H.
2542 Cargile W.P.	3445 Chan A.K.	958 Chopra S.
2792 Carl W.	529 Chan D.	1996 Chorbajian T.
1481 Carlon H.R.	2538 Chan R.J.	931 Chou P.C.
2963 Carlson F.P.	175 Chan S.P.	1805 Choudhury J.K.
2717 Carlson K.R.	355 Chance B.	1585 Chow C.K.
1877 Carlson R.G.	1805 Chanda B.	3636 Choyke W.J.
3702 Carlson R.G.	1607 Chandler J.P.	3386 Christensen J.J.
1566 Carlson S.D.	1892 Chandrasekhar K.P.	2901 Christian J.H.
1089 Carmen R.	2571 Chandross E.A.	741 Christie A.D.
2877 Carmon A.	1518 Chang F.M.	1842 Christman C.L.
14 Carnes J.E.	1831 Chang M.	530 Chu D.C.
2579 Carnes J.E.	2554 Chang S.	2518 Chudakov L.I.
1952 Carpenter A.	3555 Chang S.K.	728 Chupp E.L.
2887 Carpenter A.	2014 Chang W.C.	1359 Church V.E.
3447 Carpenter B.E.	2844 Chang Y.C.	1583 Chwang A.T.
299 Carpenter C.R.	367 Chao C.H.	1836 Chwaszczewska J.
440 Carpenter K.	2068 Chao J.C.	3028 Chwaszczewska J.
1816 Carr R.W.	2873 Chaplain R.A.	206 Cicchiello F.
3468 Carrera C.J.	844 Chapman III W.E.	1942 Cimber H.
861 Carrie J.R.G.	1153 Chapman III W.E.	2357 Cirillo L.
862 Carrie J.R.G.	2602 Chapman K.J.	1718 Cisek A.
3779 Carrie J.R.G.	1357 Chapman R.	2541 Cisek Z.
552 Carrier S.C.	1958 Charbonneau S.M.	380 Citron P.
2742 Carroll D.R.	3528 Charles J.A.	3089 Citron P.
1014 Carruth G.F.	2244 Charlson R.J.	2951 Civit A.
1024 Carstens C.J.	454 Charrier G.	920 Clack T.D.
2715 Carstensen E.L.	1485 Chartier J.L.	2054 Clack T.D.
3379 Carswell D.J.	2923 Chase G.D.	3208 Claiborne L.T.

3557	Clar E.	1157	Collins C.C.	1119	Courtois J.
1791	Clark A.P.	590	Collins G.R.	3029	Coveart A.S.
3506	Clark B.A.J.	1222	Collins H.W.	2425	Covell J.W.
475	Clark F.	70	Collins R.	1977	Covvey H.D.J.
2170	Clark G.C.	315	Collinson A.J.L.	1945	Cowan A.
2399	Clark J.S.	3731	Colloff E.	963	Cowdell R.B.
2869	Clark Jr J.W.	231	Comizzoli R.B.	484	Cowles A.L.
130	Clark M.E.	3227	Comorosan S.	1082	Cox Jr J.R.
2723	Clark N.G.	3443	Comorosan S.	1962	Cox Jr J.R.
2112	Clarke E.J.	2866	Comyn G.	1735	Craggs M.D.
974	Clarke G.	3084	Conger K.	1000	Craig J.W.
3596	Clarke J.W.	311	Connally R.E.	1884	Craige E.
113	Clarke S.W.	2441	Conniffe D.	2619	Cram L.S.
3186	Clarke W.B.	2550	Connolly J.F.	3486	Crandall P.H.
3329	Clasing D.	2957	Connor D.J.	3612	Crane H.D.
1520	Classen M.	1472	Connors W.P.	3561	Craven N.
3050	Classen M.	2629	Conrad D.A.	1492	Crawford G.I.
3521	Classen M.	777	Conroy M.F.	2742	Crawford M.P.
2152	Claytor R.N.	781	Constance J.D.	1637	Crebo A.R.
3770	Clem T.R.	763	Constantinesco A.	97	Creel W.
886	Clemente G.	3276	Constantinides A.	2413	Crevasse L.
1042	Clemesha B.R.	587	Conti F.	1006	Crochiere R.E.
2633	Clerboux T.	868	Conway C.M.	1105	Crocker D.
3472	Clerens P.J.A.	258	Cook A.M.	1183	Croft D.J.
3675	Cleveland B.T.	2498	Cook A.M.	3120	Croghan P.C.
3101	Clineschmidt B.V.	1611	Cook D.A.	1734	Crona L.
750	Closs G.D.	1847	Cook D.J.	1000	Crooke A.W.
3182	Closs O.	1151	Cook G.B.	1429	Crooks M.J.
2578	Clough G.A.	1516	Cook K.	3720	Crosby R.J.
663	Clow R.	1091	Cook K.J.	869	Crouse L.
986	Clow R.	2011	Cook R.D.	119	Crowe Jr W.J.
2624	Cluxton D.H.	2862	Cooke K.L.	4	Crowley J.P.
3353	Coakley C.J.	1022	Cooke M.B.D.	593	Cruikshank J.M.
2128	Coates Jr W.J.	1500	Cooke M.B.D.	1291	Cruise H.
2513	Coates P.B.	1501	Cooke M.B.D.	232	Csorba I.P.
2672	Coates P.B.	2174	Cooley J.W.	1033	Cudney R.A.
972	Coats A.C.	377	Cooley W.L.	3245	Cullen Jr J.K.
2058	Coats A.C.	770	Cooley W.L.	3479	Cumming G.
1618	Cobb L.	265	Coomber J.W.	2754	Cunningham J.J.
767	Cobbin L.B.	3044	Cooper J.A.	3054	Cunningham R.K.
1099	Cobbin L.B.	2727	Cooper P.	2567	Cupal J.
835	Cockshott W.P.	1506	Cooper P.N.	2010	Curnow R.N.
2794	Cockshott W.P.	1130	Cooper R.	1463	Curran R.K.
857	Coen K.	1557	Cooper R.	1754	Currie J.C.M.
1959	Coen K.	487	Cooper R.E.M.	2591	Curzon A.E.
635	Coers G.	507	Cooper W.E.	2120	Cushing P.
1363	Coers G.	891	Cope F.W.	1856	Cutcher J.L.
2141	Coers G.	892	Cope F.W.	302	Cuthbert J.
3642	Coers G.	3055	Copley A.L.	1087	Cuthbertson E.M.
77	Coggshall J.C.	1841	Corchia M.		
3620	Coggshall J.C.	1952	Corcoran D.W.J.	2843	Da Costa C.P.
114	Cohen A.	1480	Corcoran V.J.	1836	Dabrowski A.
276	Cohen A.	2057	Cornelius P.T.	3028	Dabrowski A.
3791	Cohen A.	3186	Corner T.	516	Dal Cin M.
1615	Cohen J.	472	Cornfield J.	1574	Dallas A.
2815	Cohen L.	3173	Cornfield J.	1283	Dallos P.
1619	Cohen S.	1373	Cornish L.S.	1921	Dallos P.
1404	Cohn C.E.	496	Cornwell K.	2056	Dallos P.
1109	Cohn R.	3695	Corti L.	1818	Dalmas J.
3096	Colavita F.B.	670	Corvin I.	3304	Dalmazzone J.
274	Colburn T.R.	2091	Coster H.G.L.	3073	Dams L.
2918	Colburn T.R.	2092	Coster H.G.L.	236	Daniel A.C.
3495	Colby K.M.	2982	Cottles V.M.	136	Daniel E.E.
2794	Cole H.	1858	Cotton P.B.	3102	Daniel R.S.
1618	Cole J.	1207	Coulam C.M.	1908	Danilov I.V.
2300	Cole J.J.	1996	Coull B.	675	Danilovic D.Z.
3448	Cole J.J.	1996	Coull J.	2684	Danyluk S.S.
1145	Coley R.F.	3058	Coulter Jr N.A.	2230	Darden III C.W.
3276	Colletti P.M.	2988	Coulter T.W.	831	Dardenne J.C.
3502	Colletti V.	3205	Courtney J.M.	3481	Darienko Y.P.
385	Collins C.C.	3562	Courtney P.	1885	Darling R.C.

2642 Daruvalla S.R.	1668 Debrunner H.U.	2901 Dick D.E.
1371 Das G.	2952 Decker J.R.	3169 Dick D.E.
2523 Das G.	2253 Declue L.W.	2058 Dickey J.R.
3408 Das R.P.	300 Decorps M.	2713 Dickson D.J.
3341 Das S.	999 Deczky A.G.	2814 Dienstl F.
1371 Das S.K.	2679 Dederich D.J.	3741 Dieroff H.G.
2523 Das S.K.	3700 Dedo D.D.	2964 Dignam M.J.
2649 Dashuk P.N.	3090 Deen W.M.	3182 Digranes A.
3468 Daughters G.T.	2232 Del Castillo R.	2048 Dijkstra S.
1909 David G.J.	3039 Del Grosso V.A.	2431 Dijkstra S.
1100 David R.M.	3434 Del Grosso V.A.	740 Dilg W.
131 Davids N.	828 Delarue J.	3482 Dilks R.A.
2069 Davids N.	3060 Delaunois A.L.	3236 Dillman C.J.
3691 Davidson G.A.	3650 Delhez L.	1846 Dillon J.A.
680 Davies A.V.	3285 Deliyannis T.	3685 Dimic V.
1039 Davies C.	3180 Dell R.B.	1808 Dimitrov G.
2712 Davies D.P.	299 Dell R.O.	1926 Dimitrov G.
2806 Davies M.G.	1188 Deller S.	2594 Dimitrov G.
858 Davies P.	3171 Delloso L.F.	1808 Dimitrova N.
1861 Davies P.W.	702 Deloach R.	2608 Dirks C.
532 Davio M.	425 Delouche G.	243 Dirlwanger W.
1262 Davio M.	2433 Delwaide P.A.	2405 Distelbrink C.A.
3409 Davis C.C.	2726 Demarez J.P.	3158 Dittmann J.
1572 Davis J.H.	515 Demetrius L.	1873 Dittrich J.
3160 Davis L.S.	1602 Demeyer G.	956 Divino M.D.
426 Davis R.H.	1700 Demirchoglian G.G.	230 Dix C.
2747 Davis R.J.	2339 Demirchoglyan G.G.	1034 Dixon K.
1639 Davis S.D.	1040 Demkina L.I.	2351 Dixon R.W.
2573 Davydkin I.M.	1520 Demling L.	506 D'Alton L.B.
1069 Dawes D.L.	3050 Demling L.	1670 D'Haese J.
3087 Dawids S.G.	3521 Demling L.	1702 D'Haese J.
3088 Dawids S.G.	1886 Demski L.S.	1917 Djupesland G.
3279 Dawson K.B.	2565 Den Brinker C.S.	2924 Dmitriev A.B.
64 Dawson S.V.	676 Den Haan G.A.	3321 Doane D.H.
2117 Dawson W.W.	3791 Denenberg V.H.	952 Dobbie A.K.
715 De Barros M.A.R.P.	2048 Denier Van Der Gon J.J.	1342 Dodd C.X.
807 De Boer B.	2431 Denier Van Der Gon J.J.	2117 Doddington H.W.
2304 De Boer J.	2492 Denier Van Der Gon J.J.	1857 Dodds W.J.
1179 De Dombal F.T.	1448 Denisyuk Y.N.	3681 Dodonova N.Y.
1184 De Dombal F.T.	2297 Denlinger J.K.	3407 Doemeny L.J.
150 De Felice L.J.	1854 Denman R.F.	1534 Doenecke P.
711 De Giorgio A.	1952 Dennett J.L.	623 Doering M.D.
3203 De Graaff H.C.	302 Denney E.J.	1645 Doherty M.E.
2017 De Haan J.	2901 Dennison J.C.	2241 Dohner L.
271 De Haas U.	779 Denson J.S.	949 Doi K.
2405 De Lang P.A.	3647 Deroanne R.	93 Dolan T.R.
519 De Levie R.	3650 Deroanne R.	162 Dold G.M.
1148 De Lima J.J.P.	3020 Deryugin L.N.	1076 Doljanski F.
3394 De Looy A.	3588 Descherevskii V.I.	3164 Doman P.
794 De Luca C.J.	23 Destouches J.L.	2295 Domeier E.
2916 De Luca C.J.	1603 Desu M.M.	1946 Dominguez A.
1292 De Marco A.	3451 Determann E.J.	3687 Domnin P.I.
3027 De Regge P.	762 Detmer D.E.	2382 Donaldson D.D.
3082 De Rezende J.	2340 Dettmar P.	529 Donaldson R.W.
2848 De Sousa R.C.	139 Deutsch S.	2044 Donders J.J.H.
1978 De Wit B.	983 Devlin C.R.	3072 Dong Jr E.
2045 De Wit B.	1519 Deyhle P.	2146 Donner A.
2472 De Wit B.	2249 Deyhle P.	2564 Donner A.
2592 De Wit B.	760 Deykin D.	2381 Donohue W.B.
2903 De Wit B.	2705 Dhawan S.	2151 Donuma K.
2390 DeHaan R.M.	2740 Dhume R.A.	3686 Doolin V.A.
176 DeKold D.	775 Di Chiro G.	2368 Doornbos P.
196 DeKold D.	1085 Di Paola M.	2353 Dopierala K.
207 DeKold D.	830 Di Paola R.	2502 Dorman F.
2138 DeKold D.	465 Di Silvio T.V.	3417 Dorn H.C.
3289 DeKold D.F.	193 DiCenzo C.D.	3035 Dos Santos A.N.
1967 DeLeo J.M.	255 DiCenzo C.D.	3026 Dos Santos M.C.M.
991 DeSavage B.F.	386 DiStefano III J.J.	3483 Dosske A.
890 Deakin M.A.B.	412 Diamand A.	2242 Dost F.N.
1240 Deakin M.A.B.	381 Diamond J.M.	2114 Dostal J.
1987 Dean K.J.	2801 Dick D.E.	2775 Dosuzhev A.V.

1884 Dougherty M.J.	1367 Duttweiler D.L.	1101 Effert S.
2714 Doughty N.A.	337 Duvivier C.	2728 Effert S.
3509 Dow B.M.	3770 Dvorak J.A.	2028 Efthymiatis D.
2636 Dowd J.	3327 Dvorak M.	2107 Egan B.J.
2723 Dowdell L.R.	3710 Dvorak T.	2108 Egan B.J.
1027 Downing P.M.	621 Dvorak V.	2258 Egan B.J.
1284 Downs M.P.	1125 Dworecka F.	1956 Egashira Y.
803 Doyle C.	2966 Dybina A.A.	842 Egawa J.
927 Doyle T.C.	392 Dymond A.M.	1822 Eggmann R.
2071 Drane J.W.	3486 Dymond A.M.	3734 Ehrenfeucht A.
1554 Draper D.O.	2006 Dzhafarov A.I.	310 Ehrhardt J.C.
2753 Dreher R.D.	1589 Dziedzic-Goclawska A.	871 Ehrlich W.
2409 Dreifus L.S.		2525 Eichel K.H.
307 Dreyer J.	1854 Eastcott A.	704 Eidus L.K.
1488 Driller J.	1896 Eaton Jr J.M.	1443 Eigl J.
1430 Dromgoole W.V.	3386 Eatough D.J.	2715 Einolf Jr C.W.
2229 Drosig M.	1652 Eaves G.	3152 Einolf Jr C.W.
2178 Drukier A.K.	3690 Ebbing C.	767 Einstein R.
2898 Drum B.A.	575 Ebel H.C.	1099 Einstein R.
1458 Drummond A.J.	3673 Ebeling T.R.	1106 Eiseman B.
1110 Drury R.	2280 Eberwein P.	1859 Eiseman B.
2733 Druschel G.	1301 Echigo R.	365 Eisenberg L.
3391 Drymael H.	1732 Ecke H.	429 Eisenhauer P.
1768 Dubini S.	724 Eddington R.	2893 El Hage S.G.
934 Dubrovin E.D.	739 Edelstein R.M.	1190 Elashov Y.G.
938 Dubuisson B.	2152 Eden D.D.	480 Elchesen D.R.
2906 Ducimetiere P.	2230 Edge R.D.	19 Elder R.L.
3778 Ducimetiere P.		1677 Eldredge D.H.
1165 Duddleson W.G.		319 Elfield M.
1156 Duddy E.M.		115 Elfstrom J.
1186 Dudeck J.		1902 Elgie H.
2961 Dudnikov Y.A.		722 Elings V.
680 Dudson M.F.		2745 Elizari M.V.
778 Duffin J.		2958 Elman R.I.
1485 Duguay D.		2050 Elyasberg V.M.
1077 Duhamel J.		1053 Elleman D.D.
2460 Duhamel J.		3395 Ellen L.W.
2082 Duisterhout J.S.		167 Ellerbruch V.G.
2412 Duisterhout J.S.		1349 Ellern F.
2406 Duke J.L.		3230 Elliott D.L.
1476 Dukelow W.R.		1927 Elliott G.F.
226 Dukhopel I.I.		2700 Ellis S.C.
1890 Dulchinos J.		3571 Elsasser W.M.
3715 Dumazeaud M.		1277 Else W.
2648 Dumler G.Y.		1445 Elsner Z.N.
2791 Dummeling K.		1669 Elson R.
2995 Dumont A.M.		1449 Elvers C.L.
3120 Duncan G.		1187 Emde J.W.
578 Dunin Barkovskii V.L.		396 Emde R.N.
581 Dunin Barkovskii V.L.		2484 Emery A.F.
1312 Dunin Barkovskii V.L.		894 Emmrich R.
1842 Dunn F.		3223 Emmrich R.
3508 Dunn J.S.		54 Ender P.B.
492 Dunn K.L.		1615 Endicott J.
3173 Dunn R.A.		3432 Enge W.
1632 Dunn Rankin P.		2355 Engelhardt A.
1982 Dunn T.G.		1088 Engell H.C.
2217 Dunn W.L.		3458 Engelsner H.J.
687 Dunton E.C.		2105 Engen G.F.
454 Dupuis M.C.		1038 England J.B.A.
201 Durcansky G.		2595 England J.B.A.
2029 Durnal R.G.		2414 England R.W.
2221 Durner H.		2703 Engler J.
32 Durrani T.S.	835 Edmonds E.W.	1400 Engstrom R.W.
47 Durrani T.S.	3422 Edmonds I.R.	1368 Enikova A.I.
3216 Durrani T.S.	836 Edmonds P.D.	2857 Enke H.
3376 Durrant K.	863 Edwards D.N.	73 Enneking W.F.
3715 Dutertre Y.	1510 Edwards G.	2133 Ennis J.
950 Dutrannois J.R.	437 Edwards N.K.	3412 Eppeldauer G.
181 Dutta Roy S.C.	76 Edwards R.F.	3410 Epstein L.I.
1090 Dutton R.C.	369 Effert S.	920 Erdreich J.

2054 Erdreich J.	3365 Fellgett P.B.	3542 Floyrac R.
2145 Erez A.	1621 Felson B.	776 Flynn C.J.
1425 Erickson C.W.	1689 Felstead E.B.	3269 Focke B.
414 Eriksson C.	1621 Feltham C.	303 Fodor I.
2272 Errerias Maciel R.	655 Fender F.G.	2878 Fogler S.
2758 Ershova L.K.	3137 Fenlon J.W.	1282 Fokht A.S.
2875 Erskine L.K.	2670 Ferguson J.	3689 Folds D.L.
2824 Eschallier J.	29 Ferin M.	292 Foldvary P.
648 Eschenhorn E.	1602 Fernandez Y.	906 Foley Fisher J.A.
3539 Eshelman W.	2413 Ferper M.I.	3576 Fomin S.V.
2771 Eskov E.K.	182 Ferris C.D.	1525 Fondarai J.
3484 Etevenon P.	2659 Ferris L.D.	440 Fonkalsrud E.W.
3254 Ethridge R.A.	2633 Fesler R.	31 Fontana J.R.
602 Evangelisti F.	96 Feth L.L.	1939 Forbes A.R.
2612 Evans A.G.	3437 Fetterman C.C.	797 Ford J.M.
3325 Evans B.T.	249 Fettweis A.	3210 Ford Jr N.C.
3152 Evans J.M.	3035 Feu Alvim C.A.	3091 Foreman J.
566 Evans J.W.	125 Fich S.	2484 Forester C.K.
557 Evans L.B.	708 Fick D.	2377 Forgays D.G.
1543 Evans W.E.	101 Fidanazati G.	3274 Forni C.
2308 Evdokimov S.A.	2183 Field D.	728 Forrest D.J.
2377 Evering Jr F.C.	3372 Fielder D.C.	794 Forrest W.J.
3735 Eversden I.D.	1328 Fienberg S.E.	2916 Forrest W.J.
157 Ewbank W.B.	3745 Filin V.A.	3256 Forrester J.H.
3426 Ewbank W.B.	2677 Filippov O.K.	1249 Forsyth J.J.
2270 Ewy G.A.	1296 Fine S.	1564 Foster D.H.
2270 Ewy M.D.	3043 Fine S.	1903 Foster D.H.
411 Ey W.	3671 Fine S.	2762 Foster F.G.
3739 Ey W.	1311 Finkelstein A.	881 Foster K.
428 Eyring E.M.	848 Finley Jr R.K.	2293 Fox D.E.R.
	3533 Finney D.	776 Fox F.W.
1710 Faatz H.	2375 Finster M.	21 Fox S.W.
2078 Faber D.S.	64 Finucane K.E.	567 Fox V.G.
2686 Fabes L.	1897 Firlit C.F.	1028 Fraites J.F.
1999 Fagel L.W.	2745 Fisch C.	1743 Frame J.M.
1457 Fairbank Jr W.M.	802 Fischer B.	1525 Franceschi A.
2912 Fairchild M.D.	480 Fischer H.L.	3551 Francis D.B.
2726 Faisandier Y.	737 Fischer J.	3528 Francis J.E.
2637 Faitelberg Blank V.R.	2612 Fischl R.	2162 Francon M.
2110 Faith M.R.	1392 Fisher R.M.	1673 Frank G.M.
4 Falb R.D.	2039 Fishman S.N.	224 Frank J.
507 Falvey J.M.	2494 Fishman S.N.	2998 Franke H.F.
2596 Fano R.M.	3261 Fishman S.N.	931 Frankel S.N.
1231 Färjo A.A.	3570 Fishman S.N.	1128 Frankel V.H.
596 Farmer F.T.	1964 Fitch P.	2796 Franken A.A.J.
1395 Farnsworth D.L.	2093 Fitch P.	397 Franko A.J.
2399 Farr F.L.	478 Fitzgerald L.T.	556 Franks J.R.
1567 Farrell R.A.	2978 Flachmann W.	1635 Franson P.
3638 Fasold D.	3714 Flanagan G.J.	1523 Frasher Jr W.G.
1343 Faul J.S.	558 Flanagan J.L.	3723 Frauendorf H.
3752 Faulkner V.	3362 Flanagan T.	1950 Frazier D.T.
2848 Favrod Coune E.	2703 Flauger W.	3746 Freasier B.C.
805 Fay R.R.	469 Fleck A.	3149 Frechin C.
2575 Fayerman G.P.	613 Fleck C.M.	1757 Fredelund Nielsen J.
2037 Fazekasi I.G.	353 Fleck W.	1647 Fredrickson A.G.
798 Feakes R.	1469 Fleischer J.M.	1248 Fredriksen A.
2051 Fedorin V.A.	1615 Fleiss J.L.	3515 Fredzell G.
2958 Fedorov B.F.	328 Fleming J.E.E.	235 Freedman G.S.
789 Fedorov S.N.	2094 Flemstrom G.	1867 Freeman A.
639 Fein H.	2671 Fletcher L.S.	2118 Freeman A.R.
65 Feinberg B.N.	2270 Fletcher R.D.	2168 Freeman J.
2158 Feinleib J.	2714 Fletcher R.H.	1422 Freeman J.T.R.
3492 Feinstein B.	2767 Flinn R.M.	468 Freemon F.R.
3600 Feinstein S.H.	3451 Flogel G.E.	2366 Fregly A.R.
1977 Felderhof C.H.	913 Florentin E.	3253 Frei W.
1486 Feldl E.J.	2296 Florentin E.	3000 Freitag C.
3106 Feldman R.G.	3074 Florentin E.	3002 Freitag C.
1944 Feldstein M.	782 Flores J.	407 French A.S.
2395 Feliciangeli H.	1223 Flory R.E.	3190 French A.S.
1771 Fell R.B.	2692 Flossmann W.	3015 Fretterd R.J.
1772 Fell R.B.	2349 Flower R.W.	1079 Frewer R.A.

3161 Frey S.R.	2389 Galasko C.S.B.	965 Geist J.
1433 Freymuth P.	34 Galbraith J.D.	2757 Gelfand I.M.
2652 Freyvert K.M.	2194 Galbraith J.G.	3129 Gelfand I.M.
1832 Freyvert S.I.	1908 Galdinov G.V.	2821 Gelfand M.J.
300 Fric C.	3107 Galindo A.	3778 Gelin J.
2313 Fricker B.R.	1811 Galotzy J.	2766 Gelfand I.M.
1208 Friedenber L.W.	1530 Galysh F.T.	3737 Gelfand I.M.
5 Friedlaender E.R.	1675 Gamaley I.A.	3155 Gell G.
1815 Friedman H.	3772 Gamel J.	1107 Geller H.M.
3302 Friedman H.	3500 Gamow R.I.	2744 Gelles J.M.
1957 Friedman R.B.	2644 Gangas N.H.J.	764 Gembicki M.
2425 Friedman W.F.	2121 Ganguli R.	3761 Genant H.K.
1415 Friend G.	3751 Ganguli S.	551 Gengel R.W.
1145 Frigerio N.A.	3009 Gankovskaya V.A.	424 Genieser N.B.
1574 Frisch G.D.	1725 Gannon R.P.	2101 George E.P.
1915 Frisen L.	813 Gans J.A.	2785 George E.P.
2834 Fritzsche H.	211 Garcia J.L.	348 George R.B.
1893 Frohrib D.A.	2421 Garcia Pena J.	3703 Georges P.
3046 Frolkis V.V.	614 Garcia R.I.	307 Georgi P.
2557 Fruhauf T.	550 Garcia del Castillo H.	1360 Georgiou V.J.
1520 Fruhmorgen P.	595 Gardener J.E.	1820 Gerasimova L.A.
3050 Fruhmorgen P.	872 Gardikas C.	2993 Gerber A.
560 Frumkes T.E.	643 Gardiner J.G.	3383 Gerber S.
3410 Fry G.A.	3718 Gardiner W.R.	3349 Gerchberg R.W.
1539 Fry G.L.	3386 Gardner J.W.	1709 Gerin P.
1649 Fry R.J.M.	2881 Gardner M.B.	3237 Germanton D.
1098 Fryer T.B.	3235 Gardner M.B.	2106 Germer H.
1756 Fryer T.B.	2399 Gardner R.M.	1381 Gerold M.
3321 Fryer T.B.	2217 Gardner R.P.	2011 Gerrard D.J.
2722 Fucci D.J.	2881 Gardner R.S.	3355 Gerrard G.A.
3156 Fuchs G.	3219 Gardner W.A.	3072 Gersch W.
1667 Fuchs W.	173 Garland H.	2880 Gershuni G.V.
3716 Fuest W.	3666 Garland S.J.	3118 Gerstman D.R.
3080 Fujihira E.	3150 Garnatz D.K.	3281 Gerthsen P.
512 Fujime S.	1434 Garnett E.S.	2415 Gertz K.
2212 Fujisawa K.	344 Garofalo E.	2292 Gerull G.
3432 Fukui K.	705 Garoutte B.	3722 Gerull G.
1986 Fukui S.	3164 Garrick R.	354 Geselowitz D.B.
2326 Fukushima K.	2447 Gart J.J.	521 Gesink J.W.
2248 Fukushima S.	3556 Gartshtein V.P.	1074 Gessaman J.A.
3757 Fukushima T.	1951 Garza A.L.	425 Gest J.
1221 Fullagar D.	2122 Garza Jr P.P.	808 Gestri G.
3091 Fuller B.J.	2790 Gasc J.P.	592 Gestring G.F.
2619 Fulwyler M.J.	1069 Gaskill J.W.	3762 Gestring G.F.
1519 Fumagalli J.	3390 Gasking J.	3361 Ghelfan P.
1871 Funke H.D.	2339 Gasparyan L.A.	370 Ghista D.
3319 Furihata M.	3760 Gasper J.	357 Ghista D.N.
2126 Furukawa H.	3013 Gate L.F.	2033 Ghista D.N.
1770 Furukawa T.	3551 Gau G.T.	2040 Ghista D.N.
3034 Furuta Y.	3128 Gaudeau C.	2043 Ghista D.N.
734 Fyodorov N.	3172 Gaus W.	3775 Ghista D.N.
	1049 Gautherie M.	291 Ghita C.
1408 Gabbanini A.	3519 Gautherie M.	291 Ghita L.
2198 Gabel R.A.	1309 Gauthier F.J.	643 Ghobrial S.I.
2262 Gabel R.A.	618 Gavril S.	3153 Gianturco D.T.
827 Gabor M.	3005 Gaykovich S.K.	2642 Giarola A.J.
1021 Gabriel F.	3721 Gaylor J.D.S.	2799 Gibb D.
248 Gager D.R.	3119 Gazzard M.F.	2703 Gibbard B.
3665 Gager D.R.	1667 Gebhardt U.	1639 Gibbons D.F.
622 Gagnon R.	1648 Geck P.	839 Gibbons J.D.
2290 Gaidula J.J.	531 Gedance A.R.	568 Gibbs D.F.
3191 Gaillard J.M.	128 Geddes L.A.	1479 Gibin I.S.
1388 Gainer A.V.	1727 Geddes L.A.	1997 Gibson J.E.
729 Gaines J.L.	1925 Geddes L.A.	3388 Gieles A.C.M.
3625 Gains E.	2843 Geddes L.A.	3163 Giere W.
2644 Gaitanis N.	2605 Geffe P.R.	2387 Gierer A.
2718 Gakhova E.N.	3785 Gehring A.	1911 Giesen C.
2641 Gal O.	3431 Geiger K.W.	2292 Giesen M.
1678 Galambos R.	91 Geisler C.D.	3722 Giesen M.
1213 Galante J.	791 Geisler C.D.	1013 Giffin C.E.
74 Galante J.O.	2042 Geisler C.D.	2662 Gilat G.

2937 Gilbert I.	790 Gold P.E.	1052 Graham T.P.
1862 Gilbert Jr R.	820 Goldberg A.J.	2820 Grall Y.
2769 Gilboe D.D.	3066 Goldberg B.B.	2157 Gramenopoulos N.
2550 Gilby A.S.	3085 Goldberg B.B.	228 Grammatin A.P.
760 Gilchrest B.A.	3545 Goldberg M.	3083 Grammont P.
1872 Gileadi E.	2905 Goldberg P.	1169 Grams R.R.
3413 Giles M.K.	888 Goldbeter A.	1170 Grams R.R.
2784 Gilev V.P.	1618 Golden R.	1171 Grams R.R.
1190 Gilev Y.M.	1824 Goldman L.	1172 Grams R.R.
1087 Gilfallan R.S.	3269 Goldmann A.	1173 Grams R.R.
2983 Gilhen D.M.	2734 Goldring D.	1949 Grams R.R.
1789 Gill G.	1015 Goldsmid H.J.	3540 Grams R.R.
453 Gill J.M.	761 Goldsmith H.L.	2864 Gran R.
3546 Gill P.W.	1309 Goldsmith H.L.	3124 Grandjot W.
3650 Gillard C.	1047 Goldsmith N.	1065 Grannan R.T.
209 Gillespie F.C.	2473 Goldsmith W.	3423 Grant E.H.
484 Gillies A.J.	509 Goldstein A.J.	1810 Grant G.C.
1692 Gilliom J.D.	3705 Goldstein P.J.	3754 Grassman E.D.
2952 Gillis M.F.	329 Goldwater F.	3521 Grassmann P.H.
3548 Gillmann H.	2487 Golibersuch D.C.	3156 Grastrup Hansen K.
575 Gilman S.	298 Goller H.	3768 Gratz S.C.
342 Ginczewska T.	1136 Gollnick D.A.	3777 Grauerholz H.
583 Gingell D.	1751 Gommlich H.	429 Graul E.H.
155 Ginter T.N.	3056 Gomulkiewicz J.	2181 Gray J.E.
1836 Girit W.	3057 Gomulkiewicz J.	3247 Gray Jr A.H.
3028 Girit W.	652 Goncharenko Y.N.	3205 Gray R.A.
2812 Girmes D.H.	184 Gooch C.H.	1097 Gray R.K.
2320 Girton D.G.	2856 Good I.J.	1924 Graybiel A.
2026 Gitman I.	2380 Goode R.L.	3091 Green C.J.
1821 Gitter K.A.	771 Goodlin R.C.	1693 Green D.M.
3513 Gjelsvik A.	767 Goodman A.H.	3604 Green D.M.
910 Gladstone R.J.	1099 Goodman A.H.	359 Green G.D.
2279 Glanert S.	2454 Goodman J.W.	360 Green G.D.
1679 Glaser E.M.	2841 Goodman M.	1533 Green H.L.
2444 Glaser R.	2842 Goodman M.	875 Green J.R.
3582 Glaser R.	1488 Goodwin P.N.	3444 Green K.
870 Glaspell F.	3684 Gopal S.	3545 Green S.B.
712 Glass F.M.	1473 Gorbunov G.G.	2882 Greenbaum H.B.
1149 Glass H.I.	1259 Gordon D.G.	568 Greenbaum R.
284 Glazanova N.D.	1514 Gordon H.R.	2869 Greene M.E.
3731 Gleason C.A.	2880 Gorelik B.M.	3596 Greene M.E.
636 Gledhill B.	1524 Gorini F.	1975 Greenfield H.
873 Gledhill V.X.	1326 Gorman A.L.F.	2822 Greenfield H.
2772 Gleiser S.I.	2160 Gorog I.	2413 Greenfield Jr J.C.
219 Glen J.L.	2580 Gorog I.	3187 Greenfield Jr J.C.
1406 Glen J.L.	1446 Gorokhovskiy Y.N.	2166 Greeniaus L.G.
2461 Glende M.	2813 Gorry G.A.	1580 Greenlaw R.K.
1896 Glenn J.F.	3582 Gorziza A.	1981 Greenlaw R.K.
1295 Glezer V.D.	1614 Gose E.E.	1207 Greenleaf J.F.
1914 Gloeckner S.L.	1623 Gose E.E.	2749 Greenleaf J.F.
1830 Gloge D.	290 Gostev V.I.	1637 Greenlee Jr T.K.
2154 Gloge D.	1090 Gott V.L.	2745 Greenspan K.
2325 Glotzner F.L.	1883 Gott V.L.	2532 Greenstein E.
3543 Glover D.	1569 Gotz R.	1680 Greenwood D.D.
746 Go N.	172 Goud P.A.	1681 Greenwood D.D.
2811 Gocka E.E.	2419 Gough P.T.	2055 Greenwood D.D.
1529 Godbold E.O.	2288 Gould K.L.	2894 Greenwood R.E.
772 Goddard J.	2803 Gould N.	1009 Gregg E.C.
1855 Godfraind T.	370 Gould P.	1533 Gregory I.C.
2160 Goedertier P.V.	3775 Gould P.	427 Greguss P.
2580 Goedertier P.V.	637 Gouldbourne B.	3181 Grehn S.
3594 Goedhard W.J.A.	1660 Gourishankar V.	2905 Gremy F.
1822 Goel B.	864 Gouvernet J.	492 Grenoble D.E.
419 Goetz K.L.	308 Gove N.B.	508 Gresford G.B.
2348 Gogala M.	2099 Gove N.B.	447 Greulich B.
2740 Gogate M.G.	764 Graban W.	2282 Grewe D.D.
3618 Goklany I.M.	584 Grabiec S.	1294 Gribaleva Y.S.
2623 Golahny Y.	3342 Gradzki W.	943 Griffeath D.
2469 Gold B.	3292 Graeme J.	1850 Griffiths D.
2765 Gold C.	3639 Graf C.R.	3578 Griffiths D.A.
1300 Gold H.J.	1409 Graham N.Y.	1646 Grigorev P.A.

1446 Grigoryev A.G.	1032 Guyton R.D.	3552 Hanley J.
2211 Grigoryan G.L.	1556 Gybels J.	1372 Hanna N.N.
3225 Grigoryev P.A.	3439 Gyberg A.E.	1993 Hanna N.N.
3632 Grimm O.	1926 Gydikov A.	360 Hannan W.J.
3272 Grimm W.	1259 Gyr J.	1143 Hannan W.J.
3704 Grivel M.L.		218 Hannover -
3112 Grlja S.	2316 Haaijman W.	3489 Hansel D.
2611 Grochow J.M.	3243 Haas G.F.	663 Hansen E.
4 Grode G.A.	429 Habermehl A.	986 Hansen E.
1413 Grodsky H.R.	1238 Habibi A.	3480 Hansen H.E.
2589 Grodsky H.R.	1881 Hackel F.	2693 Hansen J.S.
2379 Grodzki F.	1235 Hadibi A.	1439 Hansen N.J.
2165 Grodzki Z.	3269 Hadijuana J.	2224 Hansen N.J.
3159 Grogono A.W.	552 Hafter E.R.	1253 Hansen V.G.
1058 Groh G.	2741 Hagan W.K.	1296 Hansen W.P.
1097 Grollman Jr J.H.	2467 Hageman D.H.	2630 Hanson S.
1960 Gronwall R.	1827 Hageniers O.L.	1314 Hanss M.
1431 Gropsian Z.	1264 Hagglund J.V.	2003 Hansson Mild K.
1049 Gros C.	2496 Hagglund J.V.	3581 Hansson Mild K.
1310 Gross J.F.	1869 Hagihara Y.	1142 Hanstead P.D.
1648 Gross W.	573 Hagins W.A.	3076 Hanusova V.
3229 Grossberg S.	372 Hagler K.J.	3084 Haragopal P.S.K.
3554 Grossman J.H.	1470 Hagler M.O.	2610 Haralick R.M.
3730 Grossman S.P.	1772 Hagstrom E.C.	1534 Harbauer G.
1884 Grossman W.	931 Hahn A.W.	2699 Harbottle G.
2643 Grove R.	2047 Hahn C.	2291 Hardcastle W.J.
229 Grover C.P.	2634 Hahn C.E.W.	3514 Harde E.
1076 Grover N.B.	3356 Haig N.D.	17 Hardie D.
2180 Gruetzmacher R.R.	179 Haigh D.G.	1150 Hardwick A.D.
3428 Grummon B.R.	3228 Haight F.A.	1156 Hardy R.E.
944 Grusser O.J.	1401 Haines K.A.	1806 Hare W.F.J.
2163 Gruter H.	3303 Haisenko P.	1435 Hargreaves Jr J.H.
290 Gruzdev V.V.	472 Haisty Jr W.K.	1551 Harker D.
145 Grynszpan F.	2777 Hajek J.V.	874 Harly S.
1134 Guadagni D.N.	28 Hajek M.	1532 Harmison L.T.
550 Guardia J.	2833 Hakansson H.	509 Harmon L.D.
2872 Guerin H.	2914 Halas E.S.	1418 Harmon L.D.
3609 Gugerli U.J.	723 Hale G.M.	396 Harmon R.J.
451 Guichard N.	759 Halikas G.C.	1159 Haro A.S.
3274 Guillon R.	328 Hall A.J.	887 Harper D.
1179 Guillou P.J.	1237 Hall E.L.	3307 Harrington W.D.
3546 Guillou P.J.	2840 Hall I.J.	3107 Harris A.B.
118 Guinane J.E.	88 Hall J.L.	2522 Harris F.J.
376 Gulesian Jr P.J.	89 Hall J.L.	3500 Harris J.F.
1721 Gulko F.B.	3610 Halleux J.	514 Harris McClamroch N.
2407 Guller B.	3234 Halleux P.	2716 Harris P.S.
2063 Gullick S.A.	204 Hallgren R.C.	1217 Harris S.
1666 Gummerman K.	3102 Halliburton S.	1302 Harris T.R.
260 Gundersen J.	2235 Halliwell M.	3532 Harris T.R.
261 Gundersen J.	2236 Halliwell M.	869 Harrison D.C.
3147 Gunning J.E.	712 Halperin J.	2731 Harrison D.R.
2260 Gunther K.	2877 Halperin Y.	2787 Harrison G.A.
2142 Gupta D.K.	2194 Halsey Jr J.H.	3749 Harrison G.A.
2529 Gupta D.K.	800 Hamburger F.A.	2245 Harrison H.
45 Gupta S.C.	1851 Hamburger K.	870 Harrison W.K.
247 Gupta S.C.	3420 Hamid M.A.K.	627 Hart B.L.
898 Gupta S.C.	3539 Hamilton B.	1438 Hart C.M.
1789 Gupta S.C.	878 Hamilton J.F.	889 Hart H.E.
1044 Gurevich M.M.	1440 Hamilton J.H.	1239 Hart H.E.
1724 Gurfinkel V.S.	363 Hamilton L.L.	1123 Hart R.W.
2783 Gurfinkel V.S.	3490 Hamilton L.W.	1567 Hart R.W.
2474 Gurfinkel V.S.	3773 Hamilton W.F.	2321 Harter M.R.
172 Gurke J.F.W.	950 Hamm R.N.	2157 Hartfield E.D.
1860 Gurvich A.A.	3012 Hamm R.N.	644 Hartigan P.
3252 Guth S.L.	25 Hammond G.	595 Harting E.
3183 Guth V.	2999 Hamouda I.	2675 Harting E.
1322 Gutman A.M.	3766 Hampson W.G.J.	1710 Hartmann G.
1723 Gutman A.M.	959 Hamsphire M.J.	505 Hartmann J.
787 Gutman S.R.	1672 Han C.D.	2734 Hartmann Jr A.F.
1901 Gutmann W.	798 Han M.F.	3580 Hartmann N.R.
3445 Guy A.W.	158 Hancock S.S.	1275 Hartung C.

1674 Hartung C.	1493 Helppi H.	2352 Hildebrandt J.
498 Hartwig B.A.	3550 Helppi R.R.	1625 Hilditch C.J.
1335 Harvey I.K.	2858 Hembd H.	3381 Hileman D.
2400 Harvey K.J.	3093 Hemminki K.	2475 Hileman R.E.
817 Harwerth R.S.	2152 Hemphill R.B.	3495 Hilf F.D.
3399 Harwit M.	498 Hench L.L.	1164 Hilger E.T.
2539 Harwood R.J.	996 Hender M.A.	1199 Hilgers J.J.
555 Hashimoto T.	156 Henderson C.I.	3780 Hill A.G.
2151 Hashizume Y.	1439 Henderson D.J.	742 Hill C.R.
2957 Haskell B.G.	2224 Henderson D.J.	1607 Hill D.E.
504 Haslett J.W.	1012 Hendricks C.D.	2278 Hill D.W.
3291 Haslett J.W.	1442 Hendricks R.W.	3168 Hill D.W.
3427 Hassan A.M.	3024 Hendricks R.W.	2103 Hill J.J.
3305 Hatch V.	3178 Hendrickson L.	265 Hill M.P.
2429 Hathaway S.R.	3415 Hendrickson P.E.	362 Hill R.
2375 Hatke F.J.	2082 Hengeveld S.J.	50 Hill T.L.
2047 Hauf E.	2889 Hengstberger F.	518 Hill T.L.
30 Haugeland W.S.	3270 Henkelmann R.	2018 Hill T.L.
949 Haus A.G.	2273 Henkins A.R.	2647 Hillenkamp F.
616 Haussmann H.	2539 Henley M.W.	195 Hillers A.
80 Haut R.C.	463 Henneberg D.	753 Hills B.A.
1679 Haven M.	540 Hennessey Jr T.V.	1299 Hills B.A.
1914 Havener W.H.	1297 Hennessy T.R.	3628 Hilton P.B.
847 Havliceck S.	1298 Hennessy T.R.	2606 Hilton R.
3401 Havlik A.J.	2763 Hennessy T.R.	2896 Hiltz R.
2369 Hawkins I.F.	3657 Henriksen J.K.C.	1861 Hinchliffe A.
2397 Hawkins W.W.	1641 Henriquez T.A.	2187 Hindersin P.
3235 Hawley M.S.	690 Henry J.J.	3061 Hirano M.
106 Hay G.A.	3335 Henry J.P.	1994 Hirayama H.
1216 Hayakawa S.	1985 Henry R.L.	3757 Hirayama K.
1058 Hayat G.S.	453 Henselman J.	2336 Hirose I.
1140 Hayden E.H.	2245 Herbert J.	2362 Hirose K.
3346 Haydon G.B.	2660 Herbert M.A.	1644 Hirschfeld W.J.
174 Hayes L.L.	24 Herman G.T.	1969 Hirschhorn K.
1876 Hayes R.W.	26 Herman G.T.	3041 Hirth A.
488 Hayes Roth F.	1242 Herman G.T.	336 Hirzel H.O.
1210 Hayes Roth F.	2395 Herman G.T.	2485 Histan M.B.
82 Hayes W.C.	2982 Hermann A.M.	3333 Histan M.B.
1951 Haynie T.P.	169 Hermann P.	3593 Histan M.B.
1185 Haywood L.J.	2416 Hermans M.	2323 Hjorth B.
143 Hazelton D.W.	419 Hermreck A.S.	375 Hlastala M.P.
1349 Hazony D.	2734 Hernandez A.	1875 Hlastala M.P.
421 Headrick M.R.	1619 Hernicot P.	3478 Hlastala M.P.
785 Heal J.W.	2993 Herold U.	51 Ho W.S.
1462 Heaps W.L.	2208 Herold W.	1203 Hoagland R.L.
3143 Heath J.R.	1233 Herrendorfer G.	1539 Hoak J.C.
834 Heather J.D.	2167 Herrick K.C.	1792 Hoare C.A.R.
754 Heaton F.W.	3313 Herrigel K.	1773 Hoare D.W.
2191 Hebner Jr R.E.	82 Herrmann G.	1797 Hobbs L.C.
2164 Heckmann W.K.	322 Herrmann G.	1383 Hobson A.F.
2041 Hedenstierna G.	1628 Herrmann H.D.	1580 Hobson D.A.
115 Hedenstierna H.	1624 Herron J.	1981 Hobson D.A.
3284 Hedgpath H.R.	3460 Herrschaft H.	1920 Hochgesand P.
1915 Hedin A.	3048 Hertig B.A.	1328 Hochman H.G.
2418 Heeren K.	3272 Herzog W.	53 Hochmuth R.M.
1158 Heermann J.	3733 Hess K.H.	273 Hock A.
2492 Heethaar R.M.	2570 Hetrakul P.	703 Hock A.
1120 Hegazy M.A.	1144 Hettinger G.	816 Hockey G.R.J.
2830 Hegyeli A.F.	1130 Hewer R.L.	1857 Hodges D.
662 Heide H.G.	647 Heynen H.P.	3345 Hodges G.M.
198 Heiland B.	2400 Heys W.	2376 Hodgeson J.A.
1083 Heine H.	3719 Hibbert G.R.	1039 Hodgkinson K.A.
2203 Heinisch R.P.	846 Hickey Jr T.J.	3720 Hodgson B.J.
1604 Heinmets F.	1484 Hidaka T.	2080 Hoeks A.
436 Heinrich J.	2689 Hidaka T.	855 Hoelen A.J.
3516 Heinrich W.	2225 Higbie J.	2105 Hoer C.A.
3183 Heinrichs W.	728 Higbie P.R.	2190 Hoer C.A.
1627 Hellems H.K.	3418 Higham P.	128 Hoff H.E.
3182 Hellene S.	3339 Highfill J.H.	129 Hoff H.E.
2280 Helms H.	1241 Hildebrand C.E.	2744 Hoffman B.F.
2174 Helms H.D.	67 Hildebrandt J.	388 Hoffman C.J.

34 Hoffman M.M.	1516 Horwitz N.H.	2023 Hurst R.P.
3099 Hoffman R.	838 Hoshi K.	3465 Hurt W.D.
267 Hoffman Z.	1552 Hosko M.J.	2945 Husimi K.
3281 Hoffmann B.	2309 Hosli L.	1545 Hutchinson F.
3522 Hofmann F.W.	896 Hosomi H.	505 Hutter E.C.
2940 Hofstein S.R.	1063 Hoste J.	2692 Huttermann J.
2800 Hogan W.E.	1064 Hoste J.	720 Hviid T.
522 Hoge H.	331 Hou C.Y.	2068 Hwang N.H.C.
390 Hohne A.	2201 Hough J.	3332 Hyde C.
1383 Hoisington D.B.	2479 House A.S.	1992 Hyde F.J.
2990 Hoivik L.	2559 Houselander L.S.	2532 Hynecek J.
769 Hokanson D.E.	2449 Housworth W.J.	135 Hyok Sang Lew
2520 Holbrook G.W.	464 Houtchens B.	2486 Hyok Sang Lew
1050 Holbrook J.G.	90 Houtgast T.	656 Hyzer W.G.
407 Holden A.V.	3784 Howald H.	669 Hyzer W.G.
1075 Holden M.P.	850 Howe H.F.	1403 Hyzer W.G.
2712 Holding R.E.	3200 Hower P.L.	2572 Hyzer W.G.
856 Holdt R.S.	3316 Hower P.L.	3351 Hyzer W.G.
2721 Holger Petersen O.	1010 Howle R.C.	3359 Hyzer W.G.
2277 Holland J.G.	1137 Hoy J.E.	
3662 Holland L.	1160 Hoyer G.	1177 Iacob P.
475 Holland M.G.	3033 Hranitzky E.B.	2917 Ideker R.E.
286 Holland W.E.	3427 Hrastnik B.	3018 Igarashi A.
3144 Hollander H.	1226 Hruska G.R.	2788 Ignateva L.G.
3524 Hollender L.	1752 Hrynczuk J.R.	3322 Ijsenbrandt H.J.B.
2767 Hollingworth T.	2686 Hsi E.S.P.	3467 Ikram H.
780 Holloman Jr G.H.	1698 Hsieh D.	112 Iliff L.D.
2446 Holm C.	21 Hsu L.	1538 Imperato A.M.
2237 Holmer N.G.	1969 Hsu L.Y.F.	2945 Inaba S.
2408 Holmes J.R.	3411 Hsu S.T.	957 Inaba Y.
1234 Holmquist R.	1963 Hsu W.	2997 Inbar D.
294 Holroyd F.W.	1002 Hu J.V.	78 Inbar G.F.
295 Holroyd F.W.	70 Hu W.C.L.	917 Inbar G.F.
221 Holsinger W.P.	3055 Huang C.R.	2034 Inbar G.F.
271 Holstein S.	659 Huang T.S.	2035 Inbar G.F.
2439 Holt B.	91 Hubbard A.E.	2036 Inbar G.F.
3326 Holter N.J.	2042 Hubbard A.E.	2738 Inberg M.V.
3177 Holtmann H.W.	199 Huber C.J.	2739 Inberg M.V.
542 Holwill M.E.J.	165 Huber R.	2800 Indyk L.
2049 Holwill M.E.J.	43 Hubner H.	2832 Ing S.W.
3353 Holwill M.E.J.	2192 Huch A.	3468 Ingels Jr N.B.
3014 Holzwarth G.	2192 Huch R.	2205 Ingersoll K.A.
3014 Holzwarth N.A.W.	2406 Hudak P.R.	448 Ingham K.R.
709 Homayoonfar M.	1060 Hudson J.C.	2898 Ingling Jr C.R.
1219 Homsy C.	818 Hueber F.	2212 Inoue T.
3510 Homsy C.A.	1532 Huffman F.N.	2638 Inouye T.
1584 Honda K.	85 Huggins A.W.F.	110 Intaglietta M.
352 Honour A.J.	2344 Hughes A.	1528 Intaglietta M.
556 Hood D.C.	1225 Hughes C.G.	3065 Intaglietta M.
1891 Hood J.W.	2724 Hughes G.W.	2169 Inui Y.
1870 Hood O.C.	3413 Hughes R.S.	1416 Inuzuka T.
2546 Hood R.B.	835 Hughes T.J.	1866 Inwood M.J.
2285 Hoodless D.J.	3471 Huhta J.C.	171 Ioannides P.G.
2678 Hopfer S.	3771 Hulbert J.	1769 Ionescu V.
2253 Hopkins D.T.	3097 Hull L.D.	3655 Ionescu V.
1490 Hopkins N.	1177 Hull R.	369 Irnich W.
3716 Hopp M.	447 Hullemann K.D.	3100 Irwin D.A.
1024 Hord C.A.	2371 Hulme K.F.	1395 Irwin E.L.
157 Horen D.J.	2679 Hume F.R.	2109 Irwin J.W.
1333 Horen D.J.	1803 Hume W.R.	2239 Iseri O.A.
3426 Horen D.J.	2918 Humphrey D.R.	3743 Ishay J.
973 Horne D.E.	2056 Hung I.J.	2193 Isherwood D.M.
2875 Horowitz J.M.	660 Hunt B.R.	2193 Isherwood D.R.
3654 Horozu P.	3273 Hunt B.R.	2073 Ishibiki A.
1697 Horridge G.A.	3150 Hunt E.	152 Ishii N.
1179 Horrocks J.C.	1482 Hunt G.R.	2335 Ishikawa S.
1184 Horrocks J.C.	292 Hunt J.W.	1711 Ishikawa T.
3479 Horsfield K.	1016 Huntington S.	512 Ishiwata S.
1843 Horton Sr C.W.	123 Huntsman L.L.	558 Ishizaka K.
1535 Horwitz L.D.	1276 Huntsman L.L.	1820 Ishmuratova M.S.
1091 Horwitz N.H.	2808 Hurley P.J.	1809 Iskander M.F.

1963 Itil T.M.	418 Jeffery J.W.	2232 Jones Jr H.W.
2161 Ito K.	3241 Jeffress L.A.	1965 Jones Jr T.K.
957 Ito U.	569 Jelinek J.	3782 Jones M.D.
842 Itoh K.	3616 Jell R.M.	2342 Jones R.
3004 Itsko E.F.	2417 Jelliffe R.W.	3482 Jones R.B.
3542 Itti R.	2912 Jenden D.J.	1931 Jones T.D.
3556 Ivanitskii G.R.	2173 Jendra H.	1041 Jongerius A.
1446 Ivanov A.M.	1856 Jendresen D.	3717 Jonson B.
2543 Ivanov I.P.	964 Jenkins J.	2805 Jordan B.R.
155 Ivanov V.I.	3369 Jenkins J.O.M.	872 Jordanoglou J.
1877 Ivey L.A.	2636 Jenkins L.C.	216 Joshi N.R.
1773 Ivison J.M.	1517 Jennings D.B.	645 Joshi N.R.
3148 Iwai Y.	1519 Jenny S.	2956 Joshi N.R.
3493 Iwata Y.	3744 Jernakoff G.	2790 Jouffroy F.K.
609 Iyer T.S.K.V.	1180 Jesdinsky H.J.	1838 Jovanovich J.V.
	293 Jessop J.	2166 Jovanovich J.V.
641 Jackel D.	1476 Jewett D.A.	563 Julesz B.
2823 Jackson A.C.	792 Jewett D.L.	2127 Julie L.
2620 Jackson M.C.	3467 Jewkes R.F.	1265 Julius R.S.
3659 Jacob R.	1505 Jex H.	1191 Jutier P.
2764 Jacob R.H.	1659 Jex H.R.	246 Jutila S.T.
1197 Jacob W.	1431 Jiscann V.	
481 Jacobitz K.	3103 Jobe D.L.	3271 Kaack D.
1122 Jacobs J.B.	399 Jofre De Vasconcelos A.	1036 Kabat D.
2552 Jacobs R.	2256 Johannesson E.	1506 Kabir S.M.
2645 Jacobs S.D.	1247 Johannsen G.	272 Kadefors R.
1592 Jacobson L.E.	2041 Johansson H.	3486 Kaechele L.E.
2855 Jacquard A.	526 Johns A.T.	1257 Kahn A.
63 Jacquemin C.	2660 Johns H.E.	1629 Kahn S.D.
1930 Jacquet M.	1281 Johnson A.	1630 Kahn S.D.
1562 Jacquot P.	2020 Johnson C.B.	3788 Kahn S.D.
1105 Jaeger J.G.	3220 Johnson C.B.	3507 Kaiden J.S.
68 Jaeger M.J.	345 Johnson C.C.	2830 Kairinen E.
1115 Jaeger W.	2242 Johnson D.E.	3323 Kaiser E.
45 Jaffer A.G.	36 Johnson D.H.	3523 Kakegawa M.
540 Jaffrin M.Y.	2624 Johnson D.L.	3776 Kakehi H.
1663 Jagan N.C.	1169 Johnson E.A.	1236 Kalaba R.
1041 Jager A.	1170 Johnson E.A.	2417 Kalaba R.
2352 Jager M.	1171 Johnson E.A.	2914 Kalbfleisch E.W.
148 Jager U.	1172 Johnson E.A.	757 Kalikow D.N.
1951 Jahns M.F.	1173 Johnson E.A.	2219 Kalinin A.I.
544 Jahns R.	1279 Johnson E.A.	3278 Kalmbach K.
809 Jahns R.	2276 Johnson E.A.	990 Kam A.C.H.
1443 Jahoda M.	2360 Johnson F.	1796 Kambayashi Y.
2065 Jain N.K.	2427 Johnson F.	634 Kaminski E.
3294 Jain V.K.	2428 Johnson F.	2320 Kamiya J.
2872 Jallet P.	2576 Johnson H.M.	1726 Kamp A.
1035 Jamal M.A.	1426 Johnson J.B.	2316 Kamp A.
3394 James S.	3463 Johnson J.B.	1912 Kamphuisen H.A.C.
1879 Jamieson C.W.	2402 Johnson M.L.	2317 Kamphuisen H.A.C.
52 Jancarik J.	2128 Johnson R.L.	250 Kan E.P.F.
584 Janczarski I.	1457 Johnson S.A.	682 Kan E.P.F.
543 Janicki J.S.	3140 Johnson S.A.	1655 Kanal L.N.
823 Jankovich J.P.	2432 Johnson S.G.	2583 Kanaya K.
1147 Jankowski J.	430 Johnson T.L.	925 Kandel G.L.
2599 Jansen A.C.	3106 Johnson T.L.	421 Kane T.R.
3717 Jansson L.	2025 Johnsson A.	842 Kaneko T.
2264 Jantsch H.	2459 Johnsson A.	1585 Kaneko T.
620 Jaquay J.W.	1052 Johnston G.T.	3370 Kaneko T.
2470 Jaquette D.L.	2168 Johnston R.	2123 Kanno M.
1212 Jarosch E.	1209 Johnston R.B.	1493 Kantele J.
1899 Jarvik M.E.	801 Johnstone B.M.	2383 Kantrowitz A.
2765 Jarvik R.	2337 Johnstone B.M.	361 Kantrowitz P.
1420 Jarvis C.L.	2750 Johnstone F.D.	1500 Kaplan E.
731 Jasani B.M.	2203 Jolliffe C.L.	1501 Kaplan E.
3429 Jasani B.M.	1461 Jonas M.	2694 Kaplan S.N.
3135 Jason A.C.	1303 Jones A.S.	1919 Kaplan V.I.
1705 Jay A.W.L.	2135 Jones D.	752 Kappagoda C.T.
649 Jayant N.S.	2671 Jones J.A.	747 Karamian N.A.
2333 Jeannerod M.	1843 Jones J.D.	726 Karasek F.W.
179 Jeffers R.	113 Jones J.G.	841 Karasek F.W.

1394 Karasek F.W.	1600 Kelly D.T.	607 King E.F.
3380 Karasek F.W.	126 Kelly II K.K.	366 King G.E.
2838 Kargol M.	1376 Kelly J.M.	3510 King J.W.
2050 Karlov A.A.	1341 Kelly P.	732 King M.E.
968 Karlovac N.	3618 Kemeny G.	3055 King R.G.
2459 Karlsson H.G.	1263 Kemeraït R.C.	724 King R.S.
2025 Karlsson H.G.	1116 Kemmetmuller H.	3186 King S.J.
313 Karlsson I.	975 Kemper A.	3668 King T.
1037 Karlsson L.	3430 Kemper A.	3409 King T.A.
2226 Karlsson L.	221 Kempner K.M.	136 Kingma Y.J.
2698 Karlsson L.	504 Kendall E.J.M.	3238 Kingsbury H.B.
164 Karmen A.	3291 Kendall E.J.M.	361 Kingsley B.
638 Karnicki W.	970 Kendrick N.S.	3536 Kinoshita A.
2257 Karplus M.	1984 Kenedi R.M.	1113 Kintz R.T.
2965 Karpov L.P.	2288 Kennedy J.W.	3231 Kirby J.D.
2837 Karreman G.	2473 Kenner V.H.	3742 Kiriakov N.
2130 Karsay J.	320 Kennett T.J.	899 Kirlin R.L.
141 Karvaly B.	1434 Kennett T.J.	1801 Kiryukhin I.F.
622 Karwoski R.	806 Kenny G.S.	1473 Kiselev B.A.
3366 Kasai Y.	2071 Kent B.B.	2254 Kiser G.C.
1215 Kasami A.	3750 Kenworthy G.	2255 Kiser G.C.
1711 Kaseda M.	1434 Kenyon D.B.	1700 Kishinevsky L.P.
1794 Kasperkovitz D.	428 Kepros J.G.	25 Kisilevsky R.
1971 Kastenbaum M.A.	2295 Kerfoot E.	570 Kislyakov Y.Y.
704 Kasumov K.M.	744 Kern W.R.	2635 Kislyakov Y.Y.
2232 Katayama K.P.	2490 Kernell D.	2751 Kislyakov Y.Y.
1956 Katayama T.	3411 Kerns Jr D.V.	3613 Kislyakov Y.Y.
2920 Katayama Y.	3605 Kerr L.G.	535 Kitai R.
3772 Katholi C.R.	1771 Kertzer R.	975 Kivits P.
3733 Kato M.	1 Kesel G.	3430 Kivits P.
984 Kato N.	1870 Keshishian J.M.	3038 Kjems J.K.
2711 Kato Y.	1972 Kess B.	2876 Klatt D.H.
3688 Katra T.S.	1635 Kessler J.N.	234 Klaus J.
555 Katsuki Y.	1387 Kessler L.W.	1330 Klee M.
2223 Katsura T.	3139 Keyes W.I.	1331 Klee M.
2243 Kattawar G.W.	2402 Khairallah E.A.	3622 Klee M.
856 Katz A.J.	2284 Khalafalla A.S.	2874 Kleiber M.
2136 Katz G.	1965 Khan F.M.	2970 Klein D.
2895 Katz I.	1747 Khan M.S.	1710 Klein J.W.
492 Katz J.L.	92 Khanna S.M.	3320 Klein M.
1488 Katz L.L.	1684 Khanna S.M.	1894 Kleinknecht C.
709 Katz R.	2853 Khare R.S.	2184 Klemm K.
2418 Katzenberger K.	579 Khaspekov L.G.	2687 Klever H.
2968 Katzenelson J.	884 Khaytun F.I.	2343 Klijn J.A.J.
1909 Kaufman B.	2206 Kheveshi I.	3674 Klijn J.A.J.
2694 Kaufman L.	885 Khmaladze E.V.	3031 Klimenko S.V.
2647 Kaufmann R.L.	2494 Khodorov B.I.	1474 Klimova T.A.
1675 Kaulin A.B.	3261 Khodorov B.I.	1334 Kline D.E.
1898 Kaurov O.A.	1713 Kholodenko B.N.	1864 Kline K.A.
2248 Kawabata H.	2913 Kholodenko B.N.	1963 Klingenberg H.
1907 Kawabata N.	1853 Kholodova Y.D.	2734 Klint R.
2169 Kawabe K.	1527 Kholopov A.V.	71 Klinzing G.E.
2583 Kawakatsu H.	2265 Kholopov A.V.	485 Klip W.
3676 Kawano M.	2743 Kholopov A.V.	1081 Kloczewiak M.
1837 Kawase Y.	989 Khvatskiy Y.I.	1112 Kloprogge M.J.G.M.
3079 Kay J.C.	2241 Kiessig R.	3449 Kloprogge M.J.G.M.
311 Kaye J.H.	708 Kilian K.	3674 Kloprogge M.J.G.M.
3401 Kaye W.	3726 Killus K.	967 Knapp R.
3032 Kazachevskaya T.V.	1302 Kim B.M.	1844 Knecht C.D.
1447 Kazutina M.T.	1910 Kim D.O.	2234 Knecht C.D.
2061 Keeler J.S.	1538 Kim G.E.	459 Knechtel G.
1645 Keeley S.M.	1758 Kimmich H.P.	3537 Knepper P.A.
1682 Keen K.	1759 Kimmich H.P.	1510 Knight D.J.E.
2770 Keeney A.H.	1760 Kimmich H.P.	37 Knight J.A.
82 Keer L.M.	1764 Kimmich H.P.	2566 Knight R.R.
875 Kehl T.H.	3322 Kimmich H.P.	920 Knighton R.W.
1487 Keil G.	2332 Kindler E.	2812 Knill Jones R.P.
903 Keilson J.	2967 Kindler E.	3594 Knoop A.A.
1441 Keisch B.	3573 Kindler E.	1593 Knopp T.J.
898 Kelly C.N.	2668 Kinduris A.S.	1459 Knowles Middleton W.E.
2722 Kelly D.H.	3688 King D.B.	215 Knowlton D.J.

3165 Knowlton K.C.	2847 Korchagina M.V.	503 Kressel H.
317 Knox H.H.	1669 Korley E.	855 Kreuger J.A.
2160 Knox J.D.	2078 Korn H.	1758 Kreuzer F.
2580 Knox J.D.	2426 Kornhuber H.H.	1759 Kreuzer F.
391 Ko W.H.	1479 Koronkevich V.P.	1873 Kreuzer H.
1781 Koba T.	3046 Korotonozhkin V.G.	353 Krieglstein J.
665 Kobayashi H.	1387 Korpel A.	1722 Krinskii V.I.
9 Kobayashi M.	2187 Kortling H.J.	212 Krishnan A.
1014 Kobayashi R.	3122 Korzun P.A.	1931 Krishnaswamy V.
1138 Kobayashi T.	2037 Kosa F.	1716 Krishtal O.A.
3148 Kobayashi T.	2541 Kosciuk A.	3327 Kristan L.
2927 Koch C.J.	269 Koshevaya G.D.	2030 Kristensen K.
894 Koch H.	2962 Koshikawa T.	1388 Krivoshchekov G.V.
1520 Koch H.	2050 Kosolapov V.N.	2926 Kriz N.
3223 Koch H.	14 Kosonocky W.F.	2453 Krizan J.E.
3638 Koch J.	2579 Kosonocky W.F.	2618 Krohn V.E.
1086 Koch R.	257 Koss R.	2179 Kromann R.P.
1211 Koch W.	840 Kossoff G.	3701 Kronig B.
1936 Kock W.E.	704 Kostenko G.A.	3206 Kropp J.
3328 Kocnar K.	3112 Kostic M.	119 Krovetz L.J.
3649 Kocnar K.	2644 Kostikas A.	1923 Krueger H.
3366 Kodama K.	2440 Kostromin B.A.	3503 Krueger H.
2699 Koehler C.	1716 Kostyuk P.G.	3740 Krueger H.
2578 Koehler H.A.	1893 Kothari D.R.	2642 Krueger W.F.
3137 Koehler P.R.	688 Kotrappa P.	2733 Krug A.
507 Koenig H.E.	1549 Kots Y.M.	3019 Kruger R.A.
1246 Koenig H.E.	3230 Kou S.R.	1388 Kruglov S.V.
1562 Koenig P.	1399 Kovac M.G.	1031 Krupa J.
1021 Koepernik H.	1312 Kovalev S.A.	2965 Krupitskii E.I.
3554 Koepsell T.D.	2495 Kovalev S.A.	2927 Kruuv J.
2365 Koeslag J.H.	3259 Kovalev S.A.	734 Kryshkin V.
1413 Koester A.H.	3572 Kovanic P.	378 Krzaklewski S.
1065 Koga R.	3706 Kowadlo E.	2858 Kschwendt H.
2171 Koga T.	1974 Kowalski C.J.	3551 Kuang Chi Hu
1008 Kogan D.K.	3042 Koyano A.	2083 Kuba K.
3679 Kohler D.	2768 Kozak W.M.	439 Kubo A.M.
3663 Kohn E.S.	1808 Kozarov D.	527 Kucera V.
2248 Kohn S.	3653 Kozinski E.	3678 Kuchikyan L.M.
2911 Kohonen T.	2676 Kozlov M.G.	3511 Kuchler G.
1226 Koidan W.	2206 Kozma L.	2214 Kucia H.R.
2679 Koide F.K.	3256 Kozman T.A.	3265 Kuipers K.
1140 Koike Y.	3450 Kraaijenhagen H.A.	1763 Kuiper J.
1466 Kok C.J.	1355 Krabbe H.	795 Kukleta M.
2889 Kok C.J.	3495 Kraemer H.	3452 Kuksinsky V.E.
2211 Kokorin A.I.	560 Kraft A.L.	3059 Kukushkin N.I.
1451 Kolberg S.	2562 Kraft W.	284 Kulakov A.A.
2446 Kolberg S.	3630 Kraft W.	2587 Kulakova T.L.
2076 Koles Z.J.	1657 Kral J.	1865 Kulasek G.
1541 Kolin A.	991 Krall A.D.	1833 Kulikov A.V.
2006 Kol's O.R.	2684 Kramer A.P.	267 Kulka Z.
2851 Kol'tover V.K.	351 Kramer H.	1781 Kulka Z.
1613 Koller S.	3511 Kramer H.	3523 Kumano N.
2648 Kolyasin B.A.	2794 Krametz K.	1471 Kummmler R.
3462 Komesaroff D.	27 Kramosil I.	433 Kundel H.L.
1670 Komnick H.	3213 Krantz D.H.	466 Kunin P.E.
1702 Komnick H.	2676 Krasavin V.V.	2871 Kunov H.
580 Kompaneyets A.S.	3031 Krasnokutsky R.N.	3633 Kunzel R.
1389 Konaeva G.Y.	3007 Krasnov A.V.	616 Kuo M.C.Y.
2070 Kondo A.	2215 Kratky O.	2604 Kuo Petravic G.
2462 Konev S.V.	615 Kraus K.	1295 Kuperman A.M.
2748 Konig F.	962 Kraus K.	1691 Kuperman A.M.
1131 Konigsberg R.L.	3382 Kraus K.	2762 Kupfer D.J.
872 Kontos J.	2150 Kraus U.	351 Kupfer J.
1829 Konyukhov G.P.	1578 Krause E.S.	1460 Kurioka Y.
676 Kooi E.R.	3194 Krause G.	3728 Kurp F.
2991 Koorevaar G.	871 Krausman D.T.	1401 Kurtzner E.T.
3762 Koos W.T.	198 Krehl P.	2514 Kurup T.N.R.K.
2276 Kootsey J.M.	1134 Kreith F.	1294 Kushch O.K.
1081 Kopec M.	2264 Krenn J.	2519 Kushpil V.I.
797 Kopell B.S.	3214 Krenz J.H.	2652 Kutasov V.A.
2379 Kopystecki E.	3488 Kresse H.	3268 Kutzner J.

3687 Kuzmin V.L.	2984 Laszlo I.	10 Legros D.
2654 Kuzovaya V.L.	105 Latimer P.	1627 Lehan P.H.
2222 Kwapulinski J.	2302 Lattimer J.K.	339 Lehiste I.
410 Kwatny E.M.	1030 Laubach R.T.	3445 Lehmann J.F.
1031 Kwiatkowski B.	306 Lauber A.	2356 Lehneis H.R.
973 Kyser D.F.	316 Lauber A.	3201 Lehner L.
	2524 Lauch J.	783 Lehr E.
2738 Laaksonen V.O.	189 Laughter J.	935 Leibovic K.N.
2739 Laaksonen V.O.	1834 Laukien G.	687 Leiby Jr C.C.
1475 Labs D.	992 Laurendeau N.M.	868 Leigh J.M.
195 Labus H.	3662 Laurenson L.	857 Leighton A.H.
2906 Lacombe J.	3645 Laurig W.	1959 Leighton A.H.
2281 Lacroix J.	3726 Laux H.J.	3509 Leighton S.B.
865 Lacronique J.F.	2425 Lavelle J.F.	2 Leinbach R.C.
2392 Lacronique J.F.	268 Lavellee L.M.	449 Leiser E.
236 Lacy L.L.	2052 Lavenda B.H.	324 Leisure R.G.
503 Ladany I.	3447 Lavington S.H.	1687 Leith E.N.
505 Ladany I.	2824 Laviron A.	2709 Leith E.N.
733 Ladu M.	2220 Lavrushko A.G.	2300 Leith W.C.
132 Lafferty J.F.	2994 Lawless W.N.	3162 Lellouch J.
62 Lafosse J.E.	929 Lawrence M.	2746 Lemburg P.
1202 Laga E.M.	3566 Lawrence W.H.	3167 Lemmerz A.H.
3236 Lagasse P.	571 Lawson J.O.	3346 Lemons R.A.
1084 Lagerwerff J.M.	1143 Lawson R.C.	2727 Lempinen M.
2872 Laget P.	1365 Layden O.P.	1875 Lenfant C.J.
1178 Lagina S.M.	3006 Lazarev A.I.	2627 Lengkeek H.P.
3102 Lago G.V.	1044 Lazarev V.P.	153 Lenherr F.K.
766 Lahellec M.	1819 Lazarev V.P.	310 Lensink S.C.
3238 Laird G.W.	44 Le Bail R.C.	2697 Lent E.M.
3241 Lakey J.R.	2391 Le Borgne Y.	1541 Lenz M.W.
1498 Lakin W.L.	2410 LeBlanc A.R.	3197 Leonard F.
2520 Lamb H.H.	3174 LeBlanc A.R.	2269 Leonard J.J.
3698 Lampert R.H.	2660 LeBlanc J.C.	2467 Leonard R.D.
3695 Lamprecht I.	2661 LeBlanc J.C.	1146 Lerch I.A.
327 Lampton M.L.	1592 LeGrand J.	2588 Lerou R.J.L.
2708 Lampton M.L.	327 Lea S.M.	1535 Leshin S.J.
2719 Land E.J.	1184 Leaper D.J.	2573 Lesina T.M.
909 Landahl H.D.	3546 Leaper D.J.	509 Lesk A.B.
943 Landahl H.D.	340 Lear C.S.C.	619 Leskovar B.
1877 Lande A.J.	2334 Lebedev A.N.	3487 Lessard C.S.
790 Landfield P.W.	3711 Leblanc A.	3003 Letochov W.S.
1191 Landre M.F.	3126 Lebovitz R.M.	2674 Letokhov V.S.
1849 Lane Petter W.	1836 Lechowicz T.	1261 Leung V.P.
630 Lane R.Q.	3028 Lechowicz T.	1971 Lever C.S.
323 Lang S.B.	2297 Lecky J.H.	394 Levick W.R.
1066 Lang W.W.	1970 Ledley R.S.	2783 Levik Y.S.
1968 Lange H.J.	3146 Lee B.	2501 Levine D.A.
2969 Lange H.J.	2511 Lee D.R.	1209 Levine M.D.
3374 Lange K.O.	1603 Lee E.T.	2001 Levitt D.G.
3374 Lange K.W.	1504 Lee F.	758 Levitt H.
235 Lange R.C.	822 Lee F.F.	1965 Levitt S.H.
2318 Lange R.T.	3567 Lee H.	3484 Levy J.C.
2769 Langebartel D.A.	3232 Lee J.K.	1163 Levy J.P.
2374 Langrehr D.	1103 Lee Jr R.E.	2826 Levy J.V.
3592 Lanyon L.E.	3455 Lee K.J.	751 Levy M.J.
1490 Lanza R.	1899 Lee M.A.	2452 Levy P.S.
479 Lanzl L.H.	1699 Lee P.H.	10 Lewiner J.
164 Lapidus B.M.	1152 Lee S.T.	1825 Lewis A.L.
3403 Lapson L.B.	854 Lee V.W.K.	3407 Lewis C.
3670 Larcán A.	3255 Leeds Jr J.V.	298 Lewis D.W.
2246 Largis E.E.	736 Leenaarts H.W.	1188 Lewis F.J.
409 Larimer J.L.	1671 Lees S.	3146 Lewis F.J.
74 Larocca H.	2070 Lefavre J.	1590 Lewis G.W.
3758 Larose J.H.	888 Lefever R.	970 Lewis III J.W.
2458 Larsen R.D.	2497 Leffingwell D.A.	1879 Lewis J.D.
398 Larson S.J.	3491 Legare M.C.	1468 Lewis T.
3487 Larson S.J.	1643 Legay J.M.	1396 Ley G.S.
2348 Larson W.L.	2882 Legoux J.P.	285 Leykin M.V.
2807 Lash E.H.	866 Legras B.	885 Lezhava T.A.
613 Lasser O.	867 Legras B.	25 Li K.L.
1725 Laszlo C.A.	866 Legras J.	2724 Li K.P.

928 Liang C.Y.	3252 Lodge H.R.	1223 Luedicke E.
1995 Liberman E.A.	1096 Loeb G.E.	1307 Luggen T.E.
2852 Liberman Y.A.	3404 Loewenstein E.V.	2591 Luhman T.S.
1321 Libkind M.S.	1482 Logan L.M.	256 Lukac S.
905 Licko V.	1082 Logue R.D.	333 Lukas M.P.
2504 Lidholt L.R.	1894 Loirat C.	2552 Luke K.
705 Lie K.H.	3070 Loisanse D.Y.	288 Lukin A.V.
34 Lieber A.J.	3768 Loker T.	579 Lukyanova L.D.
3180 Lieberman K.	3560 Lollgen H.	2574 Lukovnikov V.I.
2276 Lieberman M.	959 Lomas R.A.	3246 Lummis R.C.
1955 Liebman J.S.	3544 Lombard M.R.	2878 Lund K.
2616 Liebman S.A.	330 Lomnes R.K.	718 Lupo J.C.
3564 Liedl H.	258 Long F.M.	2892 Luria S.M.
2904 Liedtke A.J.	488 Longabaugh R.	1982 Lushene R.E.
186 Lieu A.C.	1210 Longabaugh R.	3418 Luskow A.A.
688 Light M.E.	1782 Longbottom R.	2334 Lutskaa V.A.
791 Lightfoot E.N.	3015 Longini R.L.	2801 Luttses M.W.
1833 Likhtenshtein G.I.	3077 Longini R.L.	3169 Luttses M.W.
1890 Lilienfeld P.	1300 Longmuir I.S.	849 Lutzkendorf H.
1856 Lilly G.E.	2891 Longobardi G.	1786 Lyerly T.C.
562 Limb J.O.	3334 Lonsdale E.M.	2810 Lyngborg K.
1530 Lin C.Y.	1911 Lopes Da Silva F.H.	567 Lynn N.S.
266 Lin T.C.	2080 Lopes Da Silva F.H.	3142 Lyon N.C.
391 Lin W.C.	2809 Lopez W.M.	3040 Lyon R.H.
2683 Lind A.C.	1421 Lorber M.	458 Lyons J.G.
402 Lindberg R.F.	478 Lorenz E.	3414 Lytle E.A.
140 Lindemann B.	338 Lorenz Meyer H.	1673 Lyudkovskaya R.G.
1667 Lindemann B.	307 Lorenz W.J.	1928 Lyudkovskaya R.G.
3595 Lindemann C.B.	2941 Lorteye J.H.J.	349 Lywood D.W.
752 Linden R.J.	3338 Losel M.	1517 Lywood D.W.
1487 Lindner E.	2569 Losel M.E.	
926 Lindner H.	2247 Lotmar R.	116 Maack T.
1346 Lindquist C.S.	3101 Lotti V.J.	855 Maas A.H.J.
2414 Lindsay A.E.	2394 Love C.G.	2346 MacLeod P.
3242 Lindsey J.W.	1627 Love W.D.	1541 MacAlpin R.N.
2237 Lindstrom K.	1054 Loveland D.B.	397 MacClement B.A.E.
932 Linehan J.H.	2227 Loveland W.D.	3104 MacClement B.A.E.
736 Lingeman E.W.A.	754 Loveless B.W.	2277 MacDonald A.S.
3520 Linke G.	1972 Low D.A.	2303 MacFarlane M.D.
710 Linney A.	2498 Low E.	2112 MacGregor Jr R.D.
400 Linnik L.A.	184 Low J.I.	133 MacGregor R.J.
1599 Linnik L.A.	3245 Lowe Bell S.S.	2497 MacGregor R.J.
283 Linnik V.P.	798 Lowe H.	2499 MacGregor R.J.
3086 Linzer F.D.	372 Lowe H.J.	2556 MacHattie L.E.
2966 Lipatov V.V.	2139 Lowe L.M.	1206 MacInnis P.J.
628 Lipinski K.	3506 Lowe R.F.	340 MacKay J.S.
1744 Lipinski K.	3414 Lowe R.P.	2682 MacKinnon J.A.
2046 Lippert H.	2780 Lowe S.A.	536 MacLaren M.D.
1186 Lippold R.	1070 Lowell D.J.	2396 MacNair R.C.
1194 Liptzin B.	1540 Lowery B.	797 MacPherson L.
2462 Liskova T.I.	765 Lown B.	1539 Maca R.D.
447 List M.	614 Lozano R.D.	1288 Macchi O.
1395 List W.F.	584 Lubaszka E.	1955 Macdonald L.K.
704 Litinskaya L.L.	2192 Lubbers D.W.	3602 Macedo I.C.
3686 Litjaev V.M.	2268 Lube V.M.	297 Macey D.J.
910 Litsios S.	2086 Lubin A.	1586 Macey D.J.
3198 Little R.E.	1700 Lubin V.M.	2181 Machlan H.E.
80 Little R.W.	2879 Lubinsky I.A.	3329 Machtens E.
352 Littler W.A.	2888 Lubman D.	3417 Maciel G.E.
839 Litwin S.	1970 Lubs H.A.	1626 Mack A.R.
1537 Liu C.T.	1790 Lucas J.M.	873 Mackay I.R.
1999 Liu S.C.	1084 Luce R.S.	1874 Mackay R.S.
3198 Liu Y.	3666 Luckham D.C.	712 Macklin R.L.
798 Livesey P.J.	668 Lucy R.F.	1010 Macmillan D.W.
11 Ljamov V.E.	2347 Ludlam W.M.	2445 Madden R.F.
1494 Llacer J.	1628 Ludt H.	995 Maddocks R.S.
561 Llewellyn G.C.	3158 Ludt H.	1361 Maden D.
389 Lloyd D.S.L.	525 Ludwikow F.	3039 Mader C.W.
3416 LoDato V.A.	3233 Ludwikow F.	3434 Mader C.W.
1790 Lock R.D.	3579 Ludwikow F.	2228 Madey R.
1793 Lockhart G.B.	606 Lueder E.	533 Magar M.E.

2373 Magazanik A.	711 Marino D.	1293 Matskovskaya Y.Z.
1083 Magnus S.	2985 Marion C.	1051 Matson G.B.
2256 Magnusson P.O.	2845 Maritz J.S.	470 Matsuda H.
2466 Mahalanabis A.K.	3658 Mark R.G.	2314 Matsuda M.
1548 Maher J.F.	3040 Mark W.D.	2761 Matsuda M.
1555 Mahig J.	2477 Markel J.D.	1770 Matsumoto G.
336 Mahler F.	3247 Markel J.D.	1175 Matt K.H.
1080 Mahmoud S.	1646 Markin V.S.	1176 Matt K.H.
1139 Maier D.	2072 Markin V.S.	170 Mattera L.
1279 Mailen Kootsey J.	2735 Markin V.S.	3364 Mattera L.
548 Mainster M.A.	2907 Markin V.S.	3628 Matthews B.
549 Mainster M.A.	2909 Markin V.S.	3672 Matthews F.L.
1124 Mainster M.A.	3225 Markin V.S.	995 Matthews S.
2808 Maisey M.N.	3260 Markin V.S.	3483 Matthies H.
2705 Majka R.	3037 Markovic M.I.	2544 Matty T.C.
1555 Majors R.	2826 Marks K.	201 Matula S.
1313 Makarov P.O.	3136 Marks L.E.	269 Matusov Y.A.
3115 Makarov P.O.	3249 Marks L.E.	478 Mauderli W.
3122 Makarov P.O.	3606 Marks L.E.	673 Maulsby Jr M.C.
838 Makino S.	761 Marlow J.	1780 Maulsby Jr M.C.
3477 Maksimovic A.	2090 Marmarelis P.Z.	390 Maurus M.
3477 Maksimovic N.	466 Marmorshtein S.Y.	2814 Mauser R.
2651 Maksymonko G.	1605 Marois M.	2159 May F.
460 Malan E.	233 Marquerinck J.E.	2412 May J.F.
456 Malenge J.P.	1192 Marques P.	2819 Mayall B.H.
587 Malerba F.	607 Marr G.	355 Mayer D.
18 Maleyev Y.N.	1844 Marshall A.E.	1778 Mayo Jr W.T.
3389 Maliakal J.C.	2234 Marshall A.E.	3579 Mazgis B.
889 Malik U.	270 Marshall B.W.	2500 Mazokhin Porshnyakov G.A.
1896 Malin Jr J.M.	3262 Marshall D.C.	1698 Mazumder M.K.
1066 Maling Jr G.C.	3334 Marshall Jr W.C.	2614 Mc Clellan J.H.
12 Malinin V.V.	469 Marshall R.B.	251 Mc Creary T.J.
13 Malinin V.V.	1393 Martens A.E.	3696 McAlister W.H.
3761 Mall J.C.	1990 Martin A.F.	1073 McArthur C.L.
3139 Mallard J.R.	2376 Martin B.E.	815 McAuliffe D.R.
3629 Mallon D.	1024 Martin D.H.	1676 McBay H.D.
3237 Mallon J.	2617 Martin D.L.	314 McBeth G.W.
2515 Mallon J.R.	866 Martin J.	2090 McCann G.D.
3783 Malmberg P.	867 Martin J.	2327 McCann G.D.
3138 Malmgren B.	3377 Martin J.C.	3787 McCann G.D.
	264 Martin J.D.	3092 McCarren K.
1637 Malmorg J.C.	3491 Martin L.	2403 McCarroll A.M.
1547 Malnic G.	308 Martin M.J.	3339 McCartney M.L.
2851 Mamedniyazov O.M.	1728 Martin M.J.	3296 McCauley D.G.
3757 Manaka S.	915 Martin R.B.	1973 McClain D.
1805 Mandal R.K.	1251 Martin R.D.	683 McClellan J.H.
958 Mandel L.	1639 Martin R.L.	175 McClenahan J.O.
3679 Mandel L.	144 Martin R.O.	2750 McClure Browne J.C.
3003 Mandelstam S.L.	3627 Martin R.W.	970 McClure D.A.
719 Manes K.	875 Martin S.G.	2377 McClure G.
2069 Mani M.K.	2086 Martin W.B.	2366 McClure J.A.
3782 Mani R.L.	614 Martinez E.A.	996 McConkey J.W.
2016 Manly B.F.J.	3046 Martynenko O.A.	2231 McCormack F.J.
2071 Manning J.W.	713 Marugin A.M.	1161 McCready V.R.
438 Mannor S.M.	2202 Maruse S.	1831 McCrickard J.T.
3319 Mano K.	3224 Maruyama T.	3765 McCulloch C.
1762 Manson G.	2124 Marzetta L.A.	2778 McDaniel G.L.
2818 Mansourian P.G.	241 Masaki N.	358 McDonald D.A.
1440 Manthuruthil J.C.	954 Mason J.H.	3241 McFadden D.
1545 Manuel M.A.	1309 Mason S.G.	790 McGaugh J.L.
56 Manz J.W.	1174 Masoro E.J.	1960 McGavin M.D.
2782 Marakchova I.I.	693 Massey J.	1918 McGean P.H.
2702 Marangoni G.	2391 Masseyeff R.	2693 McGeorge J.C.
2277 Marble A.E.	2829 Masuhara E.	3267 McGowan F.K.
575 Marco L.	499 Matare H.F.	83 McGowan J.G.
2183 Marcus P.	1568 Mateeff S.	3669 McGowan Jr E.J.
3347 Marcuse D.	873 Mathews J.D.	3109 McGraw C.P.
3278 Mardiney Jr M.R.	2172 Mathison S.L.	2979 McGraw H.R.
1190 Mardynsky Y.S.	49 Matis J.H.	2503 McGregor D.
576 Margineanu D.G.	420 Matoyan D.S.	930 McGregor J.L.
2702 Maringelli M.	1260 Matrose E.A.	3298 McGrenera D.

979 McGuire P.L.	3772 Mesel E.	1052 Miner G.K.
3187 McHale P.A.	2098 Meshman V.F.	344 Minerva A.
598 McKechnie R.E.	2845 Metcalf D.	1938 Minnigerode B.
671 McKechnie T.S.	1379 Metz A.J.	3084 Mintz M.
877 McKenna M.C.	833 Metz C.E.	98 Mirchandani P.B.
2166 McKeown J.	461 Metzger H.D.	1326 Mirolli M.
3462 McKie B.	2390 Metzler C.M.	1714 Mirolli M.
3176 McKiernan F.	1795 Meyer A.R.	2116 Miron D.B.
699 McKinney J.E.	202 Meyer Ebrecht D.	1883 Mirowski M.
633 McKnight J.G.	3085 Meyer H.	1724 Mirskii M.L.
701 McLachlan D.F.A.	2728 Meyer J.	370 Mirsky I.
298 McLaughlin R.E.	2196 Meyer J.S.	916 Mirsky I.
2566 McLean L.S.	244 Meyerhofer D.	2043 Mirsky I.
3376 McLean W.R.	2990 Micco A.J.	2584 Misell D.L.
2621 McMillan Jr R.D.	1186 Michaelis J.	2585 Misell D.L.
2507 McNamara Jr J.A.	1613 Michaelis J.	134 Mishelevich D.J.
1218 McNamee L.P.	2613 Michaels S.B.	1620 Mishelevich D.J.
2566 McNeill G.R.	150 Michalides J.P.L.M.	2853 Mishra R.K.
663 McNolty F.	1589 Michalik J.	2657 Mitchell D.J.
986 McNolty F.	2209 Michel G.	3598 Mitchell D.J.
1118 McNulty P.J.	852 Mickey M.R.	3297 Mitchell G.
2762 McPartland R.J.	1248 Middleton D.	3475 Mitchell J.C.
2425 McPherson R.A.	1165 Midgley Jr A.R.	1536 Mitchell J.H.
3240 McQuarrie D.A.	525 Miekisz S.	1278 Mitchell J.W.
2827 McSheehy T.W.	3233 Miekisz S.	1823 Mitchell R.F.
1139 McSweeney W.J.	2450 Mielke Jr P.W.	1568 Mitrani L.
404 McVey E.S.	445 Miettinen O.S.	1926 Mitrani L.
3587 Meares P.	2850 MikelSaar K.N.	197 Mitrofan G.I.
3439 Meehan E.J.	2850 MikelSaar R.N.	2575 Mitryasov O.A.
3335 Meehan J.P.	3481 Mikhailovna G.	804 Miwa T.
3657 Meehan J.P.	3053 Mikolajek E.	401 Miyake H.
2022 Mees A.	1269 Mikulecky D.C.	3476 Miyamoto Y.
315 Meggitt G.C.	1204 Milan J.	2073 Miyazawa M.
2691 Mehring M.	476 Milanese R.	1061 Mizuno M.
1868 Meier D.	1254 Mild K.H.	843 Mlekusch W.
2492 Meijler F.L.	542 Miles C.A.	2704 Moberg L.
1672 Meilman E.	3320 Milhaud C.	9 Mochizuki Y.
2387 Meinhardt H.	780 Milhorn Jr H.T.	3202 Mock M.S.
1523 Meiselman H.J.	2823 Milhorn Jr H.T.	82 Mockros L.F.
2279 Meisner H.	373 Milic Emili J.	1706 Mockros L.F.
2004 Mel H.C.	1737 Millar H.D.	3067 Mockros L.F.
1304 Melbin J.	1838 Millar T.W.	2551 Moczala H.
967 Melen R.	383 Millar W.T.	3131 Moe M.L.
173 Melen R.D.	1065 Millard W.A.	2631 Moffitt I.R.
3130 Melnikov L.A.	495 Miller C.M.	53 Mohandas N.
2338 Mellerio J.	2485 Miller C.W.	3054 Mohn J.F.
208 Mellor D.J.	3333 Miller C.W.	3350 Mohon W.N.
1953 Melmon K.L.	2246 Miller E.A.	2869 Mohr D.N.
2784 Melnikov L.A.	319 Miller E.L.	2865 Moisesescu D.G.
2852 Menashev V.A.	1933 Miller E.R.	523 Molchanov A.M.
3589 Mendelevich I.A.	1060 Miller H.	2366 Molina E.A.
2819 Mendelsohn M.L.	1924 Miller II E.F.	3181 Moll E.
2195 Mendler N.	3436 Miller J.G.	919 Moller A.R.
1244 Mengali U.	1353 Miller J.R.	1755 Moller U.
2102 Menge B.	1164 Miller J.S.	1598 Monakhov B.V.
338 Menge H.	3151 Miller O.W.	2553 Monopoli R.V.
242 Mengel D.	3464 Miller R.E.	3082 Montenegro C.A.B.
679 Mengel D.	317 Miller T.G.	1163 Montreynaud B.
913 Menier R.	1847 Milligan J.V.	3184 Moody D.B.
2296 Menier R.	349 Milliken J.A.	2706 Moon J.R.
3074 Menier R.	3549 Milliken J.A.	3036 Moon J.R.
142 Meno F.	1927 Millman B.M.	2542 Moore B.J.
1618 Merchant H.	1799 Mills D.L.	40 Moore D.J.H.
2185 Meredith G.	3267 Milner W.T.	1420 Moore D.W.G.
3747 Merino Y Coronado	789 Milovanova L.S.	3033 Moore E.B.
1127 Merlet P.	1725 Milsum J.H.	2841 Moore G.W.
454 Merlivat J.C.	2471 Mimaki T.	2842 Moore G.W.
2232 Mermut S.	1005 Min Tai Pao	2570 Moore J.B.
268 Merrett J.	2590 Minami H.	1456 Moore J.R.
275 Merrill E.G.	401 Minami M.	404 Moore J.W.
2821 Mesel E.	2202 Minamikawa Y.	1270 Moore T.J.

1965 Moore V.C.	1505 Mullner M.	3539 Navarro L.
3682 Moore W.J.	907 Mullooly J.P.	3756 Nayak N.A.
3529 Moores B.M.	2664 Mumma M.J.	2667 Nayatani Y.
2441 Moran M.A.	1270 Mundie J.R.	933 Nazarenko A.R.
1594 Moran P.R.	1202 Munro H.N.	2485 Nealeigh R.C.
2520 Morash P.D.	1958 Munro I.C.	2480 Nebesky L.
519 Moreira H.	2920 Murata K.	356 Needham T.N.
446 Morewitz B. A.	3296 Murbach W.J.	3474 Neef H.
1130 Morgan M.H.	1428 Murgatroyd J.L.	3763 Neef H.
3103 Morgan R.J.	3227 Murgóci P.	874 Neergaard E.B.
3404 Morgan R.L.	3443 Murgoci P.	626 Neeteson P.A.
223 Morhardt J.E.	1426 Murphree O.D.	445 Neff R.K.
3643 Morhardt J.E.	1067 Murphy E.A.	2272 Negreiros De Paiva C.E.
2319 Mori A.	2360 Murphy J.T.	416 Neilson P.D.
766 Morin J.F.	2427 Murphy J.T.	417 Neilson P.D.
766 Morin P.P.	2428 Murphy J.T.	2969 Neiss A.
337 Morinet Lambert J.	2007 Murray Smith D.J.	2456 Nekvinda M.
2489 Morishita I.	1185 Murthy V.K.	3133 Nelson E.P.
3539 Moriyasu H.	1236 Murthy V.K.	681 Nelson G.A.
2337 Morizono T.	1955 Musco P.	3236 Nelson R.C.
1386 Morizumi Y.	1779 Mustafin K.S.	2798 Nemeć J.
328 Morley P.	2871 Mustard W.T.	2212 Nemoto T.
2053 Morozov V.P.	1089 Mutha S.C.	3407 Nemzek T.L.
3001 Morren L.	3279 Mutton D.E.	1995 Nenashev V.A.
3132 Morris J.	1562 Muzet A.	1829 Nesmelov E.A.
263 Morrison J.M.	2077 Myagkov I.V.	1477 Neufeld J.D.
121 Morrison L.W.	3734 Mycielski J.	901 Neufeldt A.H.
1102 Morrow C.T.	1828 Myer J.H.	1972 Neurath P.W.
3597 Morrow D.	3178 Myers J.	2074 Nevanlinna O.
856 Morse E.E.		985 Neville G.
2736 Morton P.G.	1076 Naaman J.	1555 Nevis A.H.
1393 Morton R.R.A.	2877 Nachshon I.	1026 Nevskiy L.B.
912 Mosca E.	1811 Nadachowski M.	2778 Newell Jr P.H.
1848 Mosca E.	2410 Nadeau R.A.	3769 Newman L.B.
1007 Moser C.	1278 Nadel E.R.	1798 Newport C.B.
1923 Moser E.A.	3255 Naden R.A.	2607 Newton D.
2352 Mosle H.G.	838 Nagai K.	1851 Nexo B.A.
646 Moss J.K.	2339 Nagapetyan K.O.	1606 Nicholls R.L.
3545 Moss M.L.	1001 Nagle Jr H.T.	3204 Nichols K.G.
3525 Mould R.F.	3110 Nahvi M.J.	358 Nichols W.W.
2235 Mountford R.A.	3561 Naimark A.	2275 Nichols W.W.
2236 Mountford R.A.	1215 Naito M.	2423 Nichols W.W.
2957 Mounts F.W.	2086 Naitoh P.	2315 Nichparenko W.
368 Mourya S.P.	2502 Najarian J.	743 Nickell R.E.
1883 Mower M.M.	412 Najenson T.	741 Nicol C.
279 Moyer W.R.	2829 Nakabayashi N.	1841 Nicotera E.
769 Mozersky D.J.	1837 Nakagome Y.	2818 Nicoud J.D.
2095 Mozhayeva G.N.	152 Nakahama H.	3726 Niebeling H.G.
3068 Mozhayeva G.N.	2169 Nakakuma K.	1752 Nielsen J.F.
2292 Mrowinski D.	860 Nakamura N.	107 Nielsen K.A.
3722 Mrowinski D.	541 Nakamura T.	720 Nielsen S.O.
3464 Mroz Jr E.A.	574 Nakano K.	104 Niemann H.
3116 Mrzyglod S.	3676 Nakayama T.	1055 Niemela L.
2963 Mueller M.R.	1985 Nalbandian R.M.	708 Niewisch J.
1023 Muentler J.S.	2587 Narayeva M.K.	32 Nightingale J.M.
2199 Muga M.L.	3064 Nashed M.	3216 Nightingale J.M.
455 Muir A.R.	2782 Nasledov G.A.	172 Nigrin J.
3345 Muir M.D.	1712 Nasonov A.P.	810 Nikolayev P.P.
3205 Muir W.M.	3756 Natarajan S.	2250 Nilsson F.
3751 Mukherjee P.	2808 Natarajan T.K.	2109 Nims J.C.
1260 Mukundan R.	41 Nath A.K.	2478 Nimura T.
2907 Muler A.L.	2142 Nath R.	3598 Ninham B.W.
2909 Muler A.L.	2529 Nath R.	1165 Niswender G.D.
1043 Mullaney P.F.	2273 Nathan M.A.	3466 Nitzschner H.
3616 Muller H.F.	1898 Natochin Y.V.	3368 Niu G.
3726 Muller M.	2616 Nauman C.D.	2693 Nix D.
2615 Muller P.	3114 Naumann G.	1396 Nix Jr L.A.
2977 Muller P.	271 Naumann H.J.	1277 Noble M.I.M.
1311 Muller R.U.	2095 Naumov A.P.	2725 Noble P.B.
2057 Mulligan B.E.	3068 Naumov A.P.	3079 Noble W.H.
2274 Mullink J.W.M.A.	2702 Navarra G.	3523 Nohara N.

1962 Nollie F.M.	487 O'Reilly R.J.	3070 Owens G.
1548 Nolph K.D.	981 O'Toole T.	2711 Ozasa S.
701 Noltingk B.E.	3611 Oka S.	2312 Ozesmi C.
1304 Noordergraaf A.	401 Okada A.	318 Oztunali O.I.
2060 Nooteboom S.G.	2171 Okamoto K.	
2180 Nordlander J.E.	1837 Okano K.	3111 Pabst A.
994 Nordlund D.R.	824 Oldenhave M.	2007 Pack A.I.
1078 Norley I.	2810 Olesen K.H.	1261 Padmanabhan L.
320 Norman G.R.	2828 Olivei A.	3587 Page K.R.
1532 Norman J.C.	357 Oliver C.	409 Page T.L.
2491 Norman R.S.	113 Oliver D.R.	1080 Pagurek B.
1168 Normand M.	2158 Oliver D.S.	2675 Painter E.
1827 North W.P.T.	158 Oliver Jr G.D.	3786 Paitich D.
1284 Northern J.L.	297 Oliver R.	2299 Paiva M.
1548 Nothum R.J.	2497 Oliver R.M.	513 Pakes A.G.
3562 Noton D.	2499 Oliver R.M.	382 Palatt P.J.
3667 Novak L.	112 Olson D.E.	1387 Palermo P.R.
3032 Novikov L.S.	1046 Olson D.L.	843 Paletta B.
3005 Novoselov V.A.	2914 Olson D.O.	721 Pallatz H.
3482 Nowell N.W.	971 Olsson L.G.	3697 Pameijer C.H.
984 Noyori S.	272 Olsson T.	1728 Pancholi S.C.
154 Nudelman H.B.	3018 Onodera S.	3692 Panin L.E.
1327 Nudelman H.B.	3395 Oodan A.P.	2868 Panjabi M.M.
3532 Nugent M.	1912 Oosterbaan W.A.	141 Pant H.C.
3428 Nunamaker T.A.	2317 Oosterbaan W.A.	35 Pantani L.
3143 Nunn J.F.	1570 Opitz H.J.	653 Papayan G.V.
2227 Nunnelley L.	954 Opoku R.R.	3073 Papon J.
3020 Nurmukhametov V.K.	36 Oppenheim A.V.	48 Papoulis A.
2086 Nute C.	115 Oquist L.	579 Papulova L.M.
929 Nuttall A.L.	1127 Orfait J.	3701 Parade D.
2284 Nyboer J.	2361 Orkenyi J.	253 Parasuraman B.
811 Nye P.W.	1862 Orlina A.R.	69 Pardaens J.
2 Nylas E.	3738 Orlovskii G.N.	1083 Pardemann G.
3 Nylas E.	2307 Orlovsky G.N.	2463 Park D.J.M.
810 Nyuberg N.D.	3357 Orme R.D.	1597 Parke R.
	335 Oron M.	40 Parker D.J.
1773 Oazi S.	2670 Orr W.	695 Parker D.L.
3079 Obdrzalek J.	3640 Orrel S.A.	3591 Parker H.G.
3457 Obeck D.K.	282 Ortenberg F.S.	362 Parker J.A.
1734 Oberg P.A.	2219 Ortlepp H.G.	3505 Parker J.A.
1817 Oberg P.A.	728 Orwig L.E.	1423 Parker K.T.
2094 Oberg P.A.	147 Osaki S.	1161 Parker R.P.
3516 Oberhausen E.	678 Osborn R.R.	2223 Parker S.
310 Oberley L.W.	2474 Osovets S.M.	607 Parks E.G.
2603 Oberoi R.S.	824 Osse J.W.M.	683 Parks T.W.
2790 Oblin S.	3690 Ostergard P.B.	2614 Parks T.W.
1223 Ochs S.A.	83 Osterle J.F.	1872 Parmeggiani A.
3567 Ocumpaugh D.	1589 Ostrowski K.	404 Parrish Jr E.A.
917 Odom B.M.	3683 Ostrowski K.	534 Parrish Jr E.A.
1902 Oehler F.A.	1323 Ostroy S.E.	846 Parrish Jr E.A.
2730 Oeseburg B.	3483 Ott T.	490 Parrott R.F.
1329 Offner F.F.	426 Ottaway J.H.	1126 Parsch K.
1720 Offner F.F.	2398 Otte M.	1155 Parsch K.
420 Oganessian A.I.	632 Otterson W.W.	583 Parsegian V.A.
2934 Ogen T.	3723 Otto E.	592 Parsonnet V.
3018 Ogino Y.	281 Oudin J.	2576 Parsons D.F.
2625 Ogorelec Z.	2101 Outhred R.K.	3473 Pasch T.
2980 Ogston A.G.	2785 Outhred R.K.	2462 Pashentseva T.V.
3774 Ohba N.	1271 Outwater J.O.	976 Pashley J.R.
1174 Ohnishi T.	1478 Ovcharenko G.M.	408 Pask C.
2345 Ohno Y.	3009 Ovchinnikov B.V.	2657 Pask C.
2202 Ohshita A.	713 Ovchinnikov V.M.	3680 Pask C.
2646 Ohta N.	2063 Overington I.	3512 Paslay P.R.
2196 Ohuchi T.	1208 Overton T.R.	476 Pasoli A.
1842 O'Brien Jr W.D.	1937 Overton T.R.	914 Pasternak H.S.
608 OClock Jr G.D.	2834 Ovshinsky S.R.	2927 Pasternak J.
2422 O'Connor M.L.	701 Owen C.K.V.	95 Pastore R.E.
1157 OMeara D.M.	1011 Owen T.R.E.	1827 Pastorius W.J.
1380 O'Neil B.	1531 Owens G.	2072 Pastushenko V.F.
1982 O'Neil Jr H.F.		2130 Pasztor G.
701 O'Neill P.C.		2278 Pate T.

1530 Patel A.S.	3071 Peterson K.L.	3589 Pitkin M.R.
543 Patel D.J.	457 Peterson R.M.	2216 Pitt E.
357 Patil K.M.	2725 Peterson S.C.	3542 Planiol T.
3775 Patil K.M.	2223 Peterson V.Z.	711 Plantamura V.L.
1340 Patranabis D.	745 Pethrick R.A.	2243 Plass G.N.
1352 Patranabis D.	3647 Petit J.M.	2287 Platts R.G.S.
1358 Patranabis D.	2604 Petravic M.	650 Pletneva N.I.
365 Patrick H.	1721 Petrov A.A.	1599 Plevinskis V.P.
3636 Patrick L.	2519 Petrova L.F.	1330 Plonsey R.
3720 Pauerstein C.J.	3112 Petrovic D.	1331 Plonsey R.
714 Paul C.H.	1919 Petrovskaya Y.D.	1775 Pluta M.
462 Paul G.T.	2094 Pettersson H.	1642 Poche Jr L.B.
3115 Pavlenko I.N.	51 Petzny W.J.	1227 Pocock S.N.
1582 Pawluk R.J.	1928 Pevzner L.P.	1594 Podgorsak E.B.
1892 Payas Y.	2370 Pexman J.H.W.	3496 Poggio T.
2981 Payne J.M.	3585 Pfaffelhuber E.	3586 Poggio T.
384 Peacock J.B.	3123 Pfalz R.	95 Pohlmann L.D.
2930 Pearse A.D.	3504 Pfalz R.	2974 Pohn A.V.
3215 Pearson A.E.	2659 Pfeifer C.D.	1626 Poirier P.
2261 Pearson L.D.	681 Pfeifer L.L.	3327 Pokorny F.
1384 Pease D.E.	3255 Pfeiffer P.E.	2895 Pokorny J.
980 Pease R.A.	1910 Pfeiffer R.R.	765 Polanyi M.
1019 Pease R.A.	2946 Pfeiffer W.	3026 Policarpo A.J.P.L.
1391 Pease R.F.W.	3520 Pfeiler M.	1575 Polishchuk N.A.
1118 Pease V.P.	2873 Pfister E.	600 Politch J.
2483 Pease V.P.	2251 Pfrimmer W.	1712 Polivoda B.I.
3444 Pederson J.E.	1211 Pfurttscheller G.	1712 Polivoda O.M.
61 Pedley T.J.	3485 Pfurttscheller G.	1276 Pollack G.H.
373 Pedley T.J.	75 Phatak A.V.	3066 Pollack H.M.
20 Peduto R.J.	1033 Phelps C.T.	1683 Pollack I.
3109 Peel H.H.	2613 Philbrick O.	2883 Pollack I.
2929 Peel M.	3729 Phillips A.G.	1241 Pollard E.C.
390 Peetz H.	3648 Photiades D.P.	2539 Polli G.P.
3091 Pegg D.E.	3651 Photiades D.P.	2966 Polovtseva G.L.
3128 Pelletier A.	1601 Pia H.W.	1633 Polson P.G.
733 Pelliccioni M.	828 Picard J.D.	653 Polyakov N.I.
730 Pellinen D.G.	1288 Picinbono B.C.	1271 Pope M.H.
1971 Pelster D.R.	1886 Picker L.F.	343 Popescu C.D.
3705 Peltzman P.	3494 Pickering S.G.	585 Poppele R.E.
1556 Peluso F.	821 Pickett J.M.	1285 Popper A.N.
2251 Pemsel W.	1226 Pickett M.A.	1922 Popper A.N.
573 Penn R.D.	1800 Pickholtz R.L.	2375 Poppers P.J.
699 Penn R.W.	1678 Picton T.	3637 Forges K.G.
96 Penner M.J.	1716 Pidoplichko V.I.	3764 Forstmann W.
1693 Penner M.J.	1356 Pieau J.F.	3128 Portais J.
1114 Peper E.	1353 Pierce J.M.	1485 Portal G.
1660 Peppard L.E.	341 Piercy D.W.T.	1143 Porter D.
677 Pepper J.	443 Pierse D.	2870 Porter R.E.
2643 Perez Mendez V.	1399 Pike W.S.	866 Portmann M.C.
2694 Perez Mendez V.	144 Pilkington T.C.	2539 Portnoff J.B.
3152 Perez R.A.	937 Pilkington T.C.	1100 Portnoy W.M.
437 Perlstein P.H.	2514 Pillai P.K.C.	3164 Posen S.
1709 Pernier J.	1521 Pilot T.	3421 Posener D.W.
3703 Perrine D.	2215 Pilz I.	1092 Posey J.A.
2619 Perrings J.D.	1591 Pimmel R.L.	3383 Post D.
3736 Perry G.C.	3453 Pinder D.N.	2848 Posternak J.M.
3132 Perry J.	457 Pine C.S.F.	736 Posthumus W.L.
1003 Perry J.L.	601 Pines M.Y.	3259 Potapova T.V.
927 Perry Jr N.W.	54 Pinneau S.R.	867 Potdevin M.
1722 Pertsov A.M.	1118 Pinsky L.S.	2918 Pottala E.W.
2866 Pertuzon E.	73 Piotrowski G.	204 Potter A.G.
1306 Peskin C.S.	472 Pipberger H.V.	2789 Potvin A.R.
337 Peslin R.	859 Pipberger H.V.	2428 Potvin J.N.T.
738 Peterman B.F.	3173 Pipberger H.V.	735 Povinec P.
710 Peters B.	2147 Pircher L.A.	2774 Powell J.O.
3135 Peters G.R.	3647 Pirnay F.	1976 Powell Jr W.J.
3105 Peters J.F.	3163 Pirtkien R.	128 Powell T.
1088 Petersen F.B.	289 Pisharoty N.R.	129 Powell T.
1508 Petersen H.	2200 Piterskaya I.V.	2879 Pozin N.V.
1528 Peterson K.L.	1245 Pitkin E.T.	2333 Prablanc C.
2066 Peterson K.L.	3218 Pitkin E.T.	2695 Pradzynski A.H.

20 Prak J.W.L.	1572 Radcliffe P.A.B.	127 Read R.R.
832 Prasad N.	3335 Rader R.D.	2731 Reardon W.C.
346 Prather J.W.	3657 Rader R.D.	1338 Reason J.
3405 Pratt H.L.	2264 Radi M.	1117 Reason J.T.
2558 Prechtl H.	3591 Radin E.L.	262 Reay D.A.
3312 Prechtl R.	461 Radszuweit K.G.	319 Reay N.W.
1581 Predecki P.	1177 Radut M.	3320 Rebelle J.
1638 Predecki P.	755 Rafoth R.F.	2324 Rebert C.S.
2230 Freedom B.M.	1533 Raftery E.B.	3100 Rebert C.S.
2641 Premovic P.	2149 Ragupathy S.	1943 Reckling F.W.
287 Presnukhin L.N.	225 Raguzin R.M.	829 Recourt A.
2980 Preston B.N.	3211 Rahlfs V.W.	1663 Reddy D.C.
853 Preston Jr K.	3463 Raible R.W.	1976 Reder R.E.
1654 Preston Jr K.	1885 Raines J.K.	971 Redfors A.
320 Prestwich W.V.	2548 Raja Rao B.V.	594 Redlich H.J.
2139 Prestwich W.V.	2639 Raju V.	1658 Reed I.S.
674 Preucil M.	3290 Rakovich B.D.	3424 Reed S.J.B.
1414 Prewitt J.M.S.	2653 Rakovskiy Y.N.	469 Reekie D.
1141 Price G.H.	3621 Rall W.	2700 Rees Evans D.B.
3086 Price H.M.	956 Ramaswamy V.	3702 Rees J.R.
1097 Price Jr J.E.	245 Ramberg E.G.	3607 Regan D.
384 Price M.D.	1448 Ramishvili N.M.	442 Regis H.
3119 Price Thomas D.	1647 Ramkrishna D.	305 Regulla D.
3644 Priebe L.	3153 Ramm D.	2863 Rehm W.S.
2626 Priel Z.	1624 Ranshaw R.	2461 Reich J.G.
1011 Pringle I.R.	2560 Rao B.V.	3496 Reichardt W.
3752 Pritham C.	219 Rao D.N.	1364 Reichert A.R.
969 Prochazka R.J.	1406 Rao D.N.	2899 Reichert T.A.
2426 Prochazka V.J.	57 Rao K.R.	1398 Reichman J.M.
331 Prothero J.W.	2549 Rao S.N.	3709 Reid H.J.
3561 Protti D.J.	2359 Rapoport S.I.	3603 Reid J.M.
3348 Prowse D.B.	1665 Rapoport S.S.	3105 Reilly E.L.
2924 Prudnikova G.V.	1233 Rasch D.	1918 Reinardy R.
1451 Prydz S.	1120 Rashad Hegazy M.	2482 Reiner J.
1453 Prydz S.	510 Rashevsky N.	3181 Reiners C.
2446 Prydz S.	511 Rashevsky N.	104 Reinig H.J.
2414 Pryor T.A.	588 Rashevsky N.	642 Reiniger K.D.
1827 Pryor T.R.	893 Rashevsky N.	1968 Reiter R.
2838 Przestalski S.	939 Rashevsky N.	2969 Reiter R.
3591 Pugh J.W.	940 Rashevsky N.	2416 Relik T.
73 Puhl J.J.	941 Rashevsky N.	2156 Remijan P.W.
1148 Pullan B.R.	947 Rashevsky N.	2493 Remler M.P.
2085 Pullan B.R.	1135 Rashevsky N.	2882 Remond M.C.
772 Pullen B.	1228 Rashevsky N.	2647 Remy E.
476 Puppini G.	1268 Rashevsky N.	2770 Renaldo D.
585 Purple R.L.	1316 Rashevsky N.	3257 Renaudeau J.P.
1445 Putilin E.S.	1318 Rashevsky N.	3286 Reneker D.H.
105 Pyle B.E.	1319 Rashevsky N.	1878 Reneman R.S.
3040 Pyle Jr R.W.	1320 Rashevsky N.	277 Renken J.H.
	1650 Rashevsky N.	854 Rennie G.C.
30 Quay W.B.	2076 Rasminsky M.	2032 Renson R.
3568 Queen A.	2650 Rasmussen A.L.	585 Rescigno A.
1049 Quenneville Y.	1440 Rasmussen J.O.	904 Rescigno A.
2355 Quenzer M.	2755 Rasmussen S.N.	1722 Reshetilov A.N.
2281 Quercy J.F.	3518 Rassow J.	2177 Reshodko L.V.
286 Querry M.R.	2784 Rasumova L.L.	2233 Rester D.H.
723 Querry M.R.	1293 Ratner Y.S.	1177 Restian A.
2899 Quick Jr R.F.	1696 Rattan R.	1175 Rettenmaier G.
51 Quinn J.A.	2065 Rattan R.	1176 Rettenmaier G.
1188 Quinn M.	2363 Rau G.	3488 Rettenmaier G.
	2388 Raub W.F.	1305 Reul H.
374 Raber M.B.	1095 Rautaharju P.M.	2253 Reutzel L.F.
649 Rabiner L.R.	3692 Ravodin O.M.	137 Reuver H.A.
1002 Rabiner L.R.	2153 Rawson E.G.	151 Reuver H.A.
1003 Rabiner L.R.	491 Ray C.D.	433 Revesz G.
1004 Rabiner L.R.	1634 Ray C.D.	435 Rex M.A.E.
1411 Rabiner L.R.	3773 Raymond S.	1057 Reynolds G.T.
2174 Rabiner L.R.	3371 Rayner P.J.W.	780 Reynolds W.J.
2614 Rabiner L.R.	3113 Razemon P.	1599 Reznikov V.L.
2923 Rabinowitz J.L.	3130 Razumova L.L.	1364 Rhodes G.M.
22 Radcliffe J.	477 Rea G.W.	2695 Rhodes J.R.

1378 Rice L.R.	93 Robinson D.E.	355 Rossini L.
3073 Richalet J.	431 Robinson D.E.	2700 Rossiter M.J.
923 Richards D.L.	924 Robinson G.S.	833 Rossmann K.
100 Richards W.	3363 Robinson Jr E.L.	949 Rossmann K.
3607 Richards W.	1162 Robinson R.E.	3761 Rossmann K.
2283 Richardson D.R.	1821 Robinson T.R.	1213 Rostoker W.
902 Richardson I.W.	1468 Robinson W.	1094 Roston S.
2688 Richardson R.J.	733 Roccella M.	3707 Rostorfer H.H.
2118 Richardson T.	3704 Roche M.	3727 Rostowzew B.H.
2084 Richez J.	1824 Rockwell Jr R.J.	2964 Roth J.
565 Richmond P.	3350 Rodemann A.H.	2350 Roth N.
3598 Richmond P.	894 Rodenbeck M.	3660 Roth W.
2685 Richtscheid A.	3223 Rodenbeck M.	3051 Rothauser E.H.
1892 Rickards D.F.	1834 Roder R.	1455 Rotter F.
966 Ricker G.G.	226 Rodionov Y.P.	819 Roulier A.
1199 Ricketts R.M.	3082 Rodrigues Lima J.	3649 Rous J.
3659 Riddle H.	3019 Roesler F.L.	3772 Rousseau W.F.
1754 Riddle H.C.	3279 Roffe L.M.	1314 Roux B.
1978 Rideout V.C.	99 Rohde W.E.	2985 Roux B.
2275 Rideout V.C.	3645 Rohmert W.	864 Roux M.
311 Rieck H.G.	3646 Rohmert W.	3544 Roux M.
338 Riecken E.O.	1671 Rollins Jr F.R.	1731 Rovensky Y.A.
2374 Riecken I.	3081 Rolly G.	1524 Roversi G.D.
1761 Rieckert H.	1444 Rom J.	383 Rowan D.
1918 Riekhof F.T.	3360 Roman C.	2732 Rowe G.G.
3196 Rigdon R.H.	1485 Roman D.	1600 Rowe R.D.
2696 Righini B.	1665 Romanenko G.I.	1017 Rowland J.J.
1046 Rigney D.A.	2519 Romashikhina Y.A.	1705 Rowlands S.
520 Rihaczek A.W.	2759 Romero E.G.	1833 Rozantsev E.G.
3595 Rikmenspoel R.	487 Ronai P.M.	2098 Rozenshtein G.S.
2568 Riley J.L.	101 Ronchi L.	3108 Rozenshtein G.S.
1417 Riley W.B.	1701 Ronchi L.	1527 Rozenshtraukh L.V.
2947 Riley W.J.	2897 Ronchi L.	2743 Rozenshtraukh L.V.
2818 Rinaldi J.	3742 Ronchi L.	1919 Rozhkova G.I.
1648 Ring K.	94 Ronken D.A.	1282 Rubin A.B.
2618 Ringo G.R.	1695 Rooney J.A.	3467 Rubin A.P.
402 Rintelmann W.F.	3450 Roos P.	1565 Rubin H.B.
3621 Rinzel J.	29 Rootenberg J.	2623 Rubin L.G.
1080 Riordon J.S.	945 Roper L.D.	266 Rubin S.G.
2197 Rispens P.	1317 Roper L.D.	3595 Rudd W.G.
3205 Ritchie P.D.	1077 Roques J.C.	1970 Ruddle F.H.
1207 Ritman E.L.	321 Rosander R.	2322 Rudenberg F.H.
3140 Ritman E.L.	1664 Rosati R.A.	2830 Ruderman R.J.
177 Ritter T.F.	182 Rose D.R.	3197 Ruderman R.J.
1707 Riva C.	1017 Rose Innes A.C.	2940 Rudisill W.A.
281 Riva I.	258 Rose L.E.	1274 Rudjord T.
3748 Rix R.	415 Rose R.	1284 Rudmose W.
378 Robaczynski J.	1397 Rosell F.A.	3637 Rudnick S.J.
659 Robbins G.M.	1932 Rosen L.	2292 Rudolph N.
3641 Robbins M.S.	793 Rosen M.J.	3722 Rudolph N.
1283 Robbins R.G.	895 Rosen R.	391 Ruffing F.
2367 Robe T.R.	1267 Rosen R.	3398 Ruffler C.
2410 Roberge F.A.	2383 Rosenbaum A.	1214 Runzheimer J.
3174 Roberge F.A.	1953 Rosenberg B.	2848 Ruphi M.
974 Roberts A.	664 Rosenberg R.L.	2983 Rusby R.L.
1973 Roberts A.F.	2571 Rosenberg R.L.	379 Ruschemeyer R.
254 Roberts F.G.	367 Rosenberg R.M.	836 Rushmer R.F.
955 Roberts F.M.	2452 Rosenberg S.H.	723 Rusk A.N.
2269 Roberts J.	3646 Rosenbrock F.	1014 Ruska W.E.A.
389 Roberts J.R.	2265 Rosenstrauch L.V.	739 Russ J.S.
2604 Roberts K.V.	1804 Rosenthal L.A.	2505 Russell R.J.
1531 Roberts M.	725 Rosenthal S.W.	2650 Russell T.W.
1887 Roberts M.G.	1361 Rosner R.A.	1061 Russell W.J.
3744 Roberts R.W.	1707 Ross B.	2119 Russo F.
3405 Roberts T.G.	231 Ross D.A.	3664 Rust H.P.
3090 Robertson C.R.	2004 Ross D.W.	3475 Rustan P.L.
2714 Robertson J.G.	567 Ross L.W.	1841 Rustichelli F.
130 Robertson J.M.	1467 Ross M.	3452 Rusaev V.F.
3025 Robertson M.K.	312 Rossel J.	2563 Ruszczyńska M.B.
3590 Robin G.	1553 Rossetto M.A.	1465 Rutgers G.A.W.
1693 Robinson C.E.	1515 Rossi M.	464 Rutherford B.D.

336 Rutishauser W.	1756 Sandler H.	2687 Schlaak M.
2760 Rutkin B.B.	2424 Sandler H.	2996 Schlesinger J.
1625 Rutovitz D.	3321 Sandler H.	786 Schlier C.
2892 Ryan A.	3168 Sandman A.	1834 Schmalbein D.
2024 Ryan J.P.F.J.	155 Sanina A.V.	2976 Schmelzer H.J.
506 Ryan P.J.	3684 Sanjeevaiah B.	1741 Schmidt C.
3391 Rybowski L.	283 Sapotnitskaya E.A.	388 Schmidt E.M.
2555 Rychetsky W.	2481 Saprykin V.A.	791 Schmidt F.P.
1798 Ryzlak J.	2294 Sara C.A.	379 Schmidt G.
3420 Rzepecka M.A.	2269 Sarachek N.S.	1214 Schmidt G.P.
	2182 Sargent B.J.	1083 Schmidt H.
2281 Saadjian A.	1576 Sarkisov I.Y.	1588 Schmidt M.
935 Sabah N.H.	136 Sarna S.K.	3062 Schmidt R.
2987 Sabah N.H.	467 Sarrasi A.	2870 Schmidt V.E.
1814 Sabbah B.	111 Sasaki H.	1640 Schmolka I.R.
1642 Sabin G.A.	541 Sasaki H.	2031 Schnakenberg J.
210 Saboo M.K.	2319 Sasaki S.	1948 Schneider A.J.
1255 Sadegh Zadeh K.	3708 Sass D.J.	87 Schneider B.
441 Sader A.A.	2626 Sasson M.	3103 Schneider G.T.
3776 Saegusa K.	803 Sataloff J.	3277 Schnura G.
1313 Safronova L.G.	3459 Satinsky V.P.	192 Schober H.J.
2481 Sagal A.A.	3061 Sato C.	2792 Schoemann D.
692 Sagar F.H.	2345 Sato R.	161 Schoen A.
181 Sah R.P.	1719 Sato S.	1305 Schoenmackers J.
382 Saidel G.M.	1389 Sattarov D.K.	1029 Schofield J.W.
1774 Saito K.	2652 Sattarov D.K.	452 Schomburg G.
1518 Saito T.	1542 Satterwhite R.L.	2581 Schonfelder H.
3476 Saizen N.	2512 Sauerbrey G.	1041 Schoonderbeek D.
3023 Sajeva A.	385 Saunders F.A.	1021 Schops K.
3061 Sakamoto T.	3375 Saunders M.J.	1785 Schott G.
3724 Sakhno Y.F.	3547 Sauter K.	1726 Schrijer C.F.M.
3517 Sakki S.	1887 Savage G.E.	3271 Schroder V.
3059 Sakson M.Y.	1015 Savvides N.	2884 Schroeder M.R.
2999 Salama M.	2276 Sawanobori T.	61 Schroter R.C.
1729 Salasinski K.	658 Sawchuk A.A.	2665 Schruben J.S.
3459 Salkind A.	267 Sawicki A.	2195 Schuchhardt S.
1867 Salkind A.J.	3106 Sax D.S.	1199 Schulhof R.
3517 Salmi R.	3349 Saxton W.O.	3769 Schulman C.C.
2321 Salmon L.E.	2780 Scales J.T.	3352 Schulsen E.M.
1753 Salmons S.	2836 Scarl D.B.	74 Schultz A.B.
2230 Saltmarsh M.J.	3363 Scarton H.A.	882 Schultz C.E.
1185 Saltzberg S.A.	72 Schaaf B.W.	3176 Schulz R.J.
2831 Salvati M.J.	2792 Schaaf N.G.	1126 Schumacher G.
3635 Salvati M.J.	2221 Schaarschmidt A.	1155 Schumacher G.
825 Salzer M.	3695 Schaarschmidt B.	786 Schupp W.
2931 Samaun	238 Schafer D.	1529 Schussler T.
2009 Sambandam M.K.	904 Schafer D.E.	2434 Schut T.G.
282 Samborskiy V.V.	756 Schafer R.W.	1741 Schutz H.W.
788 Samoiloova I.K.	1003 Schafer R.W.	3485 Schuy S.
12 Samoshin A.V.	2361 Schaffer B.	301 Schwan H.P.
13 Samoshin A.V.	3412 Schanda J.	3743 Schwartz A.
1673 Samosudova N.V.	1290 Schappert G.T.	274 Schwartz E.A.
2840 Sampson C.B.	2832 Scharfe M.E.	124 Schwartz G.E.
1145 Sampson M.J.	2216 Scharmann A.	3131 Schwartz J.T.
2905 Samson D.	436 Scharner W.	3541 Schwartz K.V.
3441 Samuels W.E.	3699 Scharschmidt B.	3541 Schwartz L.M.
2266 Samuelsson R.	1457 Schawlow A.L.	1800 Schwartz M.
2681 Samulski E.T.	1613 Scheidt E.	3701 Schwarz W.
398 Sances Jr A.	2409 Scheinok P.	350 Schwede H.O.
3487 Sances Jr A.	1873 Schelbert H.R.	2814 Schwingshackl H.
3258 Sancho N.G.F.	1016 Schellman J.	3180 Sciacca R.
582 Sandblom J.	773 Schenk Jr W.G.	3149 Sciot A.
2496 Sandblom J.P.	3062 Schenk Jr W.G.	1157 Scott A.B.
1976 Sanders C.A.	746 Scheraga H.A.	3691 Scott D.S.
1464 Sanders C.L.	1609 Scheraga H.A.	2396 Scott I.
2863 Sanders S.S.	2796 Scheren W.J.L.	3714 Scott J.C.
2768 Sanderson A.C.	2125 Schernus G.P.	1439 Scott R.G.
611 Sanderson A.E.	1555 Schettini A.	2224 Scott R.G.
2736 Sanderson J.M.	3580 Scheufens E.E.	1934 Scott W.P.
3396 Sanderson R.B.	618 Schieber D.	1935 Scott W.P.
1098 Sandler H.	2993 Schirgel W.	3448 Scribner B.H.

3254 Scrimshire D.A.	3107 Shapiro H.M.	1045 Shtilerman G.A.
3105 Seaba P.	1450 Shapiro R.	3576 Shtilkind T.I.
2586 Sealer D.A.	2373 Shapiro Y.	3627 Shubin H.
3354 Sealer D.A.	625 Shapiro Y.A.	3052 Shuck T.J.
3628 Searle B.N.	988 Shapiro Y.A.	2451 Shukla G.K.
366 Searle J.R.	3724 Sharipov I.K.	2218 Shulman H.
1525 Sebaoun E.	2466 Sharma K.L.S.	160 Shvartz E.
2195 Sebening F.	709 Sharma S.C.	451 Sicard G.
362 Secker Walker R.	609 Sharma S.M.	2464 Siddon T.E.
442 Sedan R.	3259 Sharovskaya Y.Y.	2676 Sidorin K.K.
7 Sedgwick A.	1489 Sharpe J.	2695 Sieberg R.D.
1929 Segal J.R.	2210 Sharpe P.J.H.	599 Siebert H.P.
2548 Seghal A.K.	120 Shastri S.J.	2925 Siebert H.P.
719 Seguin H.J.	2268 Shatikhin A.I.	3446 Siede K.
697 Seibel R.R.	992 Shaw A.D.	1899 Siegel R.K.
2809 Seidenfeld A.	2287 Shaw K.M.	535 Siemens K.H.
3535 Seifert E.	2511 Shaw M.L.	3154 Siemsen J.K.
3050 Seiler C.F.	1225 Shaw R.M.	707 Sigdell J.E.
2603 Seiler G.J.	577 Shcherbakova G.Y.	3445 Sigelmann R.A.
1453 Seim T.	3614 Shcherbunov A.I.	3603 Sigelmann R.A.
2446 Seim T.O.	433 Shea F.J.	1088 Siggaard Andersen J.
2321 Seiple W.H.	1715 Sheatz G.C.	3151 Sights W.P.
782 Seitchik J.	1742 Sheatz G.C.	2626 Silberberg A.
1779 Seleznev V.A.	309 Sheen E.M.	302 Silk C.
2846 Sel'kov E.E.	1953 Sheiner L.B.	3215 Silverman H.F.
3345 Sella C.	1239 Shelupsky D.I.	110 Silverman N.R.
801 Sellick P.M.	186 Shen Phi Wang	2912 Silverman R.W.
3767 Selting W.J.	2401 Sheng Hsiung Lin	2049 Silvester N.R.
1491 Seltzer S.M.	1812 Shenker D.	1955 Simborg D.W.
851 Selwood N.H.	3197 Shepard W.D.	3175 Simborg D.W.
789 Semenov L.G.	3092 Shepherd D.C.	1370 Simic M.
650 Semenov Y.P.	3284 Shepherd J.R.	1941 Simionescu R.
1045 Semenova M.V.	3378 Shepherd W.	3590 Simkin A.
1352 Sen P.C.	3423 Sheppard R.J.	1013 Simmonds P.G.
3408 Sen S.N.	397 Sherebrin M.H.	2110 Simmons J.B.
2533 Sengupta K.K.	3104 Sherebrin M.H.	3151 Simmons Jr E.M.
2586 Sequin C.H.	1385 Sheridan N.K.	1050 Simmons R.R.
3354 Sequin C.H.	1062 Sherman I.S.	3552 Simmons W.W.
1154 Serafin R.	2778 Sherwood A.M.	749 Simms J.A.
2758 Serdyuk A.M.	1598 Shibanova A.I.	110 Simon A.L.
3004 Seredenko M.M.	737 Shibata S.	1855 Simon P.
2788 Seregina T.M.	1956 Shibata S.	2393 Simon R.M.
1820 Sergeev L.V.	2123 Shida K.	415 Simon S.
2671 Sernas V.	2580 Shidlovsky I.	1664 Simon S.B.
879 Serov B.D.	1181 Shields S.	2644 Simopoulos A.
438 Serr D.M.	1770 Shigezumi M.	3296 Simpson C.E.
3647 Servais J.C.	2668 Shileyka A.Y.	3750 Simpson D.C.
256 Sevcik J.	1994 Shimazaki K.	646 Simpson R.J.
3427 Seyfarth H.	2314 Shimizu Y.	2465 Simpson R.J.
3568 Shabaga R.	2761 Shimizu Y.	698 Sinclair W.D.J.
3071 Shabetai R.	2202 Shimoyama H.	1973 Sindberg R.M.
3696 Shackelford G.D.	3098 Shimp C.P.	186 Sing Chang
1750 Shafai L.	2131 Shimura M.	71 Singh H.B.
2890 Shagal A.M.	2928 Shine G.L.	1696 Singh K.
978 Shah M.	2196 Shinmaru S.	2065 Singh K.
1020 Shah M.J.	309 Shiplot D.B.	1579 Singh M.
2144 Shah M.J.	2367 Shippy D.J.	3058 Singh M.
3310 Shah M.J.	1187 Shipton H.W.	368 Singh R.H.
1898 Shakhmatova Y.I.	2720 Shitzer A.	247 Singh S.
789 Shakhnovich A.R.	3048 Shitzer A.	2329 Sinha A.K.
1399 Shallcross F.V.	205 Shivaprasad A.P.	193 Sinha N.K.
586 Shamir J.	1860 Shlyakhtina L.S.	255 Sinha N.K.
3732 Shamir J.	2879 Shmelev L.A.	178 Sinigaglia G.
2943 Shane J.	3193 Shockley W.	2880 Sipovskii A.V.
3749 Shanks C.	1013 Shoemake G.R.	1571 Sisler H.A.
2294 Shanks C.A.	2863 Shoemaker R.L.	993 Sivertssen E.
2787 Shanks C.A.	42 Sholl H.A.	2637 Sivorinovsky G.A.
2610 Shanmugam K.	1416 Shono Y.	1865 Siwecka B.
3134 Shannon G.F.	2502 Shons A.	2256 Sjoberg N.O.
153 Shapiro B.I.	3122 Shostak V.I.	3515 Sjogren S.E.
124 Shapiro D.	2440 Shpakov A.G.	2490 Sjolholm H.

2030 Skadhaug E.	2137 Snoeck B.	1368 Spasov A.Y.
117 Skalak R.	1541 Snow H.D.	485 Spear A.
2859 Skalak R.	2724 Snow T.B.	2273 Spelman F.A.
3142 Skartvedt S.M.	408 Snyder A.W.	2559 Spence R.
1203 Skavariil R.V.	564 Snyder A.W.	1573 Spencer D.J.
1705 Skibo L.	565 Snyder A.W.	387 Spencer H.J.
2182 Skilling J.K.	1697 Snyder A.W.	3297 Spencer R.D.
3552 Sklar B.	2657 Snyder A.W.	2643 Sperinde J.
2256 Skov Jensen A.	3680 Snyder A.W.	817 Sperling H.G.
3480 Skov P.E.	46 Snyder D.L.	3152 Spicher J.L.
1771 Skutt H.R.	2797 Snyder D.L.	1257 Spink T.
1772 Skutt H.R.	2885 Snyder J.M.	1615 Spitzer R.L.
673 Slack W.V.	122 Snyder M.F.	1607 Spivey H.O.
1780 Slack W.V.	3276 Snyder R.A.	2600 Spoon H.J.
3161 Slack W.V.	1937 Snyder R.E.	2207 Spooner D.L.
352 Sleight P.	1280 Snyder R.W.	3526 Spranger H.
3746 Sliney D.H.	2261 Snyder S.P.	1560 Spring K.R.
2365 Sloan A.W.	675 Sobajic M.V.	1096 Springer P.A.
3706 Sloman G.	3232 Sobel M.	1208 Sproule B.J.
2651 Smathers S.E.	3712 Sobin S.S.	210 Srinivasan K.R.
2575 Smayev V.P.	3677 Soboleva N.F.	154 Srinivasan R.
3556 Smetanich Y.S.	826 Sobolewski J.	2530 Srinivasan S.
3239 Smidt G.L.	1110 Sobolewski J.S.	1545 St. Clair Neill G.D.
3041 Smigielski P.	2362 Sobue I.	1053 Stacey L.M.
1825 Smiley V.N.	1783 Soceneantu A.	1589 Stachowicz W.
30 Smiriga N.G.	2990 Sodal I.E.	47 Stafford E.M.
284 Smirnov V.A.	3242 Soderquist D.R.	538 Stafford III W.F.
879 Smirnov V.I.	3512 Soechting J.F.	601 Stafsudd O.M.
1844 Smith C.W.	2779 Soerjanto R.	3185 Stage A.F.
2234 Smith C.W.	1850 Softly A.	3790 Stagg D.
3565 Smith D.C.	2252 Sohail M.A.	3323 Stalberg E.
2400 Smith D.D.	2373 Sohar E.	3697 Stallard R.E.
1502 Smith D.L.	1507 Sohrabi M.	3023 Stanchi L.
3404 Smith D.R.	3517 Soila P.	1872 Stanczewski B.
640 Smith D.T.	1324 Sokolove P.G.	3538 Standard J.M.
951 Smith F.H.	2772 Sokovishin V.A.	2062 Stanek J.
2749 Smith H.C.	494 Soldatov V.P.	3654 Stanescu N.
3265 Smith J.	1345 Soliman A.M.	1179 Staniland J.R.
2422 Smith J.C.	1347 Soliman A.M.	1184 Staniland J.R.
75 Smith J.D.	706 Solosky L.F.	1370 Stankovic D.
1960 Smith J.E.	2900 Soloviev A.I.	2845 Stanley E.R.
3199 Smith K.C.	41 Som A.	1882 Stanley J.C.
1048 Smith K.L.	1912 Somer J.C.	3288 Stanley O.C.
490 Smith K.S.	2317 Somer J.C.	3510 Stanley R.F.
3422 Smith M.J.A.	2368 Somer J.C.	3137 Stanley R.J.
350 Smith N.T.	3388 Somers G.H.J.	2302 Stanley T.H.
434 Smith N.T.	2870 Somerset J.H.	2510 Stanton M.G.
667 Smith P.L.	3400 Sommer A.H.	3208 Staples E.J.
1125 Smith R.	661 Sondhi M.M.	1305 Starke W.
16 Smith R.B.	2478 Sone T.	1664 Starmer C.F.
220 Smith R.E.	1967 Songco D.	2019 Starmer C.F.
3551 Smith R.E.	3047 Soprunov F.F.	3187 Starmer C.F.
2650 Smith R.L.	2437 Soref R.A.	3469 Starmer C.F.
1105 Smith R.M.	2755 Sorensen B.L.	1162 Startzman T.S.
1627 Smith R.O.	95 Sorkin R.D.	2279 Steckmeier B.
1250 Smith S.E.	1692 Sorkin R.D.	2199 Steeger W.E.
3429 Smith T.	2924 Sorokin L.S.	443 Steele A.D.M.
2895 Smith V.C.	1104 Sorokin V.N.	1884 Stefadouros M.A.
1230 Smith W.	3078 Sorokin V.N.	3597 Stefanou H.
1365 Smith W.L.	933 Sorokina Z.A.	774 Stein P.D.
1480 Smith W.T.	3020 Sotin V.E.	407 Stein R.B.
402 Smitley E.K.	2077 Sotnikov P.S.	585 Stein R.B.
2080 Smits H.	2129 Souders T.M.	1727 Steinberg R.
1286 Smoorenburg G.F.	3574 Soukup V.	1925 Steinberg R.
1287 Smoorenburg G.F.	744 Soumpasis D.M.	329 Steinberger E.H.
342 Smyk I.	2868 Southwick W.O.	2701 Steingraber O.J.
342 Smyk J.	1859 Soyer T.	3466 Steiniger M.
1134 Smyth C.J.	2727 Soyer T.	218 Steinkamp W.
1870 Smyth N.P.D.	1223 Spalding R.L.	2033 Stempin C.W.
2329 Smythe H.	3626 Sparks G.	389 Stenfors S.G.B.
2097 Snezhko Y.M.	3441 Sparks R.E.	869 Stenson R.

1581 Stephan J.E.	1058 Stroke G.W.	791 Sy F.
1638 Stephan J.E.	563 Stromeyer III C.F.	2719 Sykes A.
3262 Stephen J.	1740 Stromsmoe K.A.	773 Sykes B.J.
814 Stephens S.D.G.	2194 Strong E.	1492 Syme D.B.C.B.
2534 Stephenson C.J.	2904 Strong R.M.	193 Szabados B.
180 Stephenson F.W.	2393 Stroot M.T.	255 Szabados B.
1350 Stephenson F.W.	1281 Strother C.E.	2257 Szabo A.
1446 Stepochnik A.A.	2454 Strubin H.B.	1656 Szekely D.L.
3165 Sterling D.M.	833 Strubler K.A.	3096 Szeligo F.
3165 Sterling T.D.	1395 Strull G.	2240 Szlauer K.
521 Stern M.M.	2978 Stubenrauch H.	3728 Szymanski A.
2812 Stern R.B.	1809 Stuchly S.S.	
1400 Sternberg J.H.	3420 Stuchly S.S.	2832 Tabak M.D.
149 Stevens C.F.	3706 Stuckey J.	2008 Taenzer J.C.
3335 Stevens C.M.	2180 Stuehr J.E.	1813 Tagesen S.
3136 Stevens J.C.	12 Stukalin Y.A.	348 Tahir A.H.
1686 Stevens K.N.	13 Stukalin Y.A.	2263 Takagi H.
1013 Stevens M.R.	1252 Stuller J.A.	3319 Takagi T.
2376 Stevens R.K.	1730 Sturgess G.L.	2667 Takahama K.
2526 Stevens R.T.	3140 Sturm R.E.	3601 Takahara H.
1857 Stewart E.T.	2023 Stusnick E.	2171 Takahashi M.
1307 Stewart J.	3075 Stutz M.L.	2590 Takahashi M.
1308 Stewart J.	982 Subbarao W.V.	1869 Takane H.
922 Stewart J.L.	1647 Subramanian G.	2263 Takano H.
1545 Stewart W.K.	61 Sudlow M.F.	1138 Takayanagi S.
1840 Steyerl A.	112 Sudlow M.F.	2126 Takeda I.
734 Stibunov V.	373 Sudlow M.F.	665 Takemura Y.
743 Stickler D.C.	1061 Suga Y.	111 Takishima T.
479 Stickley E.E.	3536 Sugar H.S.	541 Takishima T.
3716 Stiegler F.	953 Sugata E.	483 Takizawa M.
2528 Stiglitz M.R.	2752 Sugawara H.	1714 Talbott S.R.
779 Stiles C.M.	889 Sugerman D.	2404 Talmon J.L.
779 Stiles Q.R.	1239 Sugerman D.	953 Tamaki S.
79 Stiles R.N.	1138 Sugita T.	438 Tamari I.
3315 Still R.G.	3033 Suit H.D.	2188 Tamura O.
2304 Stinson R.H.	1390 Sukhanov V.I.	2014 Tan W.Y.
845 Stinton P.	2598 Sullivan D.D.	3523 Tanaka E.
1206 Stock S.	3464 Sullivan F.J.	471 Tanaka H.
109 Stockham Jr T.G.	911 Sullivan J.K.	3034 Tanaka S.
273 Stockmeyer B.	220 Sullivan R.H.	2707 Tanenbaum W.
703 Stockmeyer B.	2006 Sumarukov G.V.	2553 Tang T.W.
3683 Stodolnik Baranska W.	769 Sumner D.S.	804 Taniguchi M.
3563 Stofer A.R.	1047 Sunshine R.A.	2962 Tannaka Y.
1366 Stojanovic B.M.	1845 Sunthakar Y.	1724 Tarko A.M.
3290 Stojanovich V.S.	304 Suntharalingam N.	3230 Tarn T.J.
3670 Stoltz J.F.	3530 Suppan P.	1377 Tatapudi L.
1278 Stolwijk J.A.J.	1559 Surguladze T.D.	279 Tatarczuk J.R.
2959 Stolyarov V.I.	1724 Surguladze T.D.	3385 Tate D.C.
2305 Stomonyakov V.	2070 Susset J.G.	3137 Taveras J.M.
1098 Stone H.L.	437 Sutherland J.M.	2085 Taylor C.J.
1071 Stonebraker M.	456 Sutre P.	219 Taylor D.
1911 Storm Van Leeuwen W.	2809 Suwa K.	1406 Taylor D.
2316 Storm Van Leeuwen W.	1584 Suzuki H.	497 Taylor D.F.
1863 Stormer B.	3080 Suzuki S.	1454 Taylor G.W.
3770 Stotler W.F.	2126 Suzuki T.	1825 Taylor H.F.
352 Stott F.D.	804 Suzumura A.	2839 Taylor J.
2396 Stott N.C.H.	1397 Svensson E.L.	765 Taylor J.B.
534 Stoughton J.W.	1144 Svensson E.O.	2330 Taylor J.G.
1344 Strackee L.	1144 Svensson H.	2577 Taylor M.E.
1546 Strandell P.	624 Swamy M.N.S.	2806 Taylor R.
769 Strandness Jr. D.E.	3365 Swann T.G.	1181 Taylor T.R.
2134 Strange M.	132 Swanson G.T.	2661 Taylor W.B.
2537 Strangio C.	3119 Swanston D.W.	3661 Teates C.D.
125 Strano J.J.	1653 Swartz H.M.	218 Techn. Univ.
1412 Strassberg D.D.	2416 Swenne C.A.	444 Teeter C.L.
2954 Stratbucker R.A.	3384 Swenson C.A.	2793 Tegtmeyer C.J.
2955 Stratbucker R.A.	757 Swets J.A.	2587 Telegin I.A.
3170 Stratbucker R.A.	2742 Swift C.S.	610 Tellegen B.D.H.
1062 Strauss M.G.	1121 Swift D.W.	174 Temes G.C.
1444 Stricker J.	1630 Swint Jr E.B.	1398 Temkin S.
3250 Strocka D.	3788 Swint Jr E.B.	646 Tempest W.

1677	Templer J.W.	3377	Timberlake J.W.	2394	Trebbi G.
1536	Templeton G.H.	259	Timbers G.E.	3123	Trecek H.H.
2731	Templeton G.H.	3222	Timin M.E.	3504	Trecek H.H.
137	Ten Hoopen M.	380	Timm G.W.	2288	Trenholme S.
151	Ten Hoopen M.	1893	Timm G.W.	2125	Trenkler G.
2081	Ten Hoopen M.	2753	Timm G.W.	235	Treves S.
2593	Ten Hoopen M.	3089	Timm G.W.	792	Trezek G.J.
2112	Tenforde T.	3403	Timothy J.G.	2067	Trezek G.J.
1947	Tenzel R.R.	3109	Tindall G.T.	591	Tribble D.E.
852	Terasaki P.I.	1256	Ting Ho Lo J.	2547	Tribolet J.P.
2077	Terekhov O.P.	845	Tinker J.	3301	Trietley Jr H.L.
3753	Terekhov Y.V.	548	Tips J.H.	1474	Trilesnik I.I.
3754	Terekhov Y.V.	549	Tips J.H.	3263	Trimble J.L.
1031	Terlecki J.	1124	Tips J.H.	3263	Trimble S.N.
768	Terry F.H.	1257	Tisdale G.	812	Trinder E.
2917	Terry F.H.	3191	Tissot R.	3299	Trinogga L.A.
1807	Terry H.J.	372	Titel J.H.	2652	Trofimova L.S.
1587	Tescher A.G.	1526	Titomir L.I.	1726	Troost J.
772	Testa H.J.	3069	Titomir L.I.	536	Trucco E.
1698	Testerman M.K.	2383	Titone C.	537	Trucco E.
1127	Tetar C.	1129	Tkach V.K.	1649	Trucco E.
164	Tetrud J.W.	239	Tlaczala W.	2002	Trucco E.
3311	Thai N.D.	1784	Tobey G.	18	Trufanov A.S.
1025	Thain E.	3499	Tobias J.V.	2747	Truitt J.
3371	Thajchayapong P.	2711	Todokoro H.	163	Trunk G.V.
904	Thakur A.K.	3042	Tokunaga N.	843	Truppe W.
1616	Thames Jr H.D.	2825	Tolke A.	2719	Truscott T.G.
334	Thau F.E.	589	Toll M.O.	3273	Trussell H.J.
1262	Thayse A.	2736	Tolloczko T.S.	3154	Tryon R.W.
2658	Thelen A.	1783	Toma C.I.	437	Tsang R.C.
3041	Thery C.	178	Tomassetti G.	2102	Tschope U.
3483	Thiemann W.	2353	Tomaszewska J.	2059	Tseo G.G.
1504	Thies H.H.	2919	Tomek I.	2774	Tso M.O.M.
3470	Thoma H.	1266	Tometsko A.M.	931	Tsou F.K.
1504	Thomas B.W.	651	Tomilin M.G.	2752	Tsuchida S.
1257	Thomas C.E.	2083	Tomita T.	1770	Tsuchida Y.
360	Thomas D.L.	3254	Tomlin P.J.	1647	Tsuchiya H.M.
1957	Thomas D.W.	1348	Tomlinson G.H.	2478	Tsumura T.
3121	Thomas J.G.	959	Tomlinson R.D.	2073	Tsumuraya Y.
3605	Thomas J.P.	3042	Tomono K.	2319	Tsumuraya Y.
1096	Thomas Jr C.A.	110	Tompkins W.R.	2590	Tsuneoka T.
477	Thomas P.E.	1528	Tompkins W.R.	3736	Tuddenham A.
2716	Thomas R.B.	2586	Tompsett M.F.	719	Tulip J.
230	Thomas R.T.	1954	Tondl L.	1731	Tuma V.
2714	Thomas V.J.	2369	Tonkin A.	1246	Tummala R.L.
2740	Thombre D.P.	92	Tonndorf J.	3103	Turbes C.C.
1631	Thompson C.J.	1684	Tonndorf J.	2640	Turck B.
2278	Thompson F.D.	502	Tooker F.H.	3065	Turina M.
1121	Thompson G.V.	2375	Topaz S.R.	2632	Turino J.L.
3355	Thompson J.E.	843	Topic P.	950	Turner J.E.
694	Thompson K.C.	2252	Topps J.H.	3566	Turner J.E.
280	Thompson M.G.	1810	Torda T.A.	3095	Turner J.W.
3498	Thorburn W.	2354	Torda T.A.	3337	Turner R.J.
782	Thorne D.O.	1651	Toropova F.V.	717	Turner T.J.
1452	Thornton W.A.	3149	Toucas M.	1889	Turney S.Z.
1602	Thouin A.	2789	Tourtellotte W.W.	124	Tursky B.
908	Thron C.D.	3231	Towill D.R.	1609	Tuttle R.W.
3710	Thulesius O.	3780	Townsend H.R.A.	2347	Twarowski C.J.
2409	Thum K.W.	2064	Townsend R.E.	3719	Tweedie D.
2754	Thurber B.	2155	Townsend R.L.	3397	Tyler P.E.
1209	Thurlbeck W.M.	3631	Toyama K.	2028	Tzafestas S.
2398	Thurmayer G.R.	1215	Toyama M.		
2398	Thurmayer R.	1054	Tozer T.N.	3172	Uberla K.
2418	Thurmayer R.	2859	Tozeren A.	666	Uchida I.
1522	Thurston G.B.	749	Traficante D.D.	3755	Ude P.
2765	Tichauer E.R.	2027	Trajstman A.C.	2937	Udolf R.
270	Tiederman W.G.	642	Trankler H.R.	3127	Ueda G.
3360	Tieffenbach L.	1258	Trautman R.	2561	Ueno A.
1911	Tielen A.M.	208	Travis J.R.	159	Ueno S.
2628	Tilford C.R.	2910	Travnik M.P.	2100	Ueno S.
1086	Tillmann P.	3251	Travnikova N.P.	2140	Uhler P.T.

3300 Uhler P.T.	2412 Van Herpen G.	1766 Vliegenthart A.
1819 Ukhanova Z.I.	1743 Van Nice H.L.	2729 Vliers A.C.A.P.
1088 Ulrich J.	2274 Van Nimwegen C.	2730 Vliers A.C.A.P.
2655 Ulrich P.B.	2516 Van Raan A.F.J.	2562 Voegeli F.
1486 Umbarger C.J.	2908 Van Rotterdam A.	3277 Voigt H.U.
2915 Ungan P.	3266 Van Rotterdam A.	3177 Voigt U.
1597 Updike S.J.	824 Van Schie B.	2391 Voirin H.
1068 Upton L.G.	2991 Van Stekelenburg G.J.	466 Volfson E.B.
662 Urban K.	1880 Van Straaten J.J.	2494 Volkenshtein M.V.
353 Urban W.	684 Van Tassel D.	3261 Volkenshtein M.V.
2260 Urbaszek W.	2275 Van Vollenhoven E.	2972 Volk A.M.
226 Urris I.Y.	3449 Van Wamel J.G.	2039 Volkenstein M.V.
3045 Urry D.W.	1248 VandeLinde D.	3570 Volkenstein M.V.
2904 Urschel C.W.	3308 Vander Kooi M.	1512 Volz F.E.
3693 Ury H.K.	1553 Vandercar D.H.	799 Von Bekesy G.
2575 Usanov Y.Y.	55 Vandivere E.F.	1186 Von Egidy H.
734 Usov Y.	3419 Vanier J.	1546 Von Garrelts B.
318 Usseli A.I.	2296 Vardon G.	1205 Von Mengden H.J.
3071 Uther J.B.	3074 Vardon G.	3559 Von Mengden H.J.
3417 Uurtamo S.J.	1163 Varet B.	2328 Von Seelen W.
	3348 Vas A.	740 Vonach H.
2871 Vachon B.R.	2772 Vasilyev A.S.	1474 Vorobeychik V.M.
303 Vadon G.	654 Vasin L.N.	287 Vorobyev N.V.
845 Vahl S.P.	75 Vasudevan R.	2268 Vorontsov V.A.
543 Vaishnav R.N.	147 Vasudevan R.	1758 Vos J.A.
1191 Valat M.T.	159 Vasudevan R.	1759 Vos J.A.
2694 Valentine K.	2100 Vasudevan R.	1764 Vos J.A.
1092 Valentinuzzi M.	1708 Vatter O.	102 Vos J.J.
128 Valentinuzzi M.E.	1053 Vaughan R.W.	103 Vos J.J.
129 Valentinuzzi M.E.	547 Vayo H.W.	1479 Voskoboinik G.A.
1092 Valentinuzzi M.E.	2040 Vayo H.W.	2187 Voss G.R.
2278 Valentinuzzi M.E.	784 Veale W.L.	2849 Vostry Z.
1747 Vallee R.L.	2399 Veasy L.G.	3569 Vostry Z.
442 Vallicioni P.A.	3589 Velikson V.M.	546 Voukydis P.C.
1619 Valois J.	1232 Velzel C.H.F.	918 Voukydis P.C.
1307 Valtin H.	1876 Venables P.H.	946 Voukydis P.C.
1308 Valtin H.	1554 Venator E.R.	2079 Voukydis P.C.
3081 Van Aken J.	987 Venkateswara Rao V.	1129 Vovk M.I.
2835 Van Allen L.N.	2718 Veprintsev B.N.	1040 Voyshvillo N.A.
2017 Van Bemmél J.H.	1765 Verberne G.	1558 Vozhenina N.I.
2082 Van Bemmél J.H.	1276 Verdugo P.	1769 Vrincianu R.
2404 Van Bemmél J.H.	1651 Vereninov A.A.	3655 Vrincianu R.
2411 Van Bemmél J.H.	331 Veress S.A.	3656 Vrincianu R.
2416 Van Bemmél J.H.	3130 Veretennikova A.A.	1272 Vukobratovic M.
3161 Van Cura L.J.	2639 Verma J.K.D.	423 Vyalushkin B.Y.
2405 Van Den Aker Jansen M.A.	1149 Vernon P.	2926 Vyskocil F.
3322 Van Den Akker A.J.	2119 Verrazzani L.	
1438 Van Den Bosch A.C.P.	675 Veselinovic D.I.	1384 Waber J.T.
948 Van Den Ende H.	1731 Vesely P.	3615 Wachtmeister L.
1438 Van Der Does De Bye J.A.W.	1991 Vesper R.	2681 Wade C.G.
1195 Van Der Esch E.P.	2017 Veth A.F.L.	3197 Wade C.W.R.
1196 Van Der Esch E.P.	3577 Viaud P.R.	3077 Wadhwani R.
3472 Van Der Hoeven G.M.A.	3328 Vichr R.	276 Wadsworth N.
2933 Van Der Kooi M.K.	845 Vickery J.C.	2244 Waggoner A.P.
1878 Van Der Meer J.J.	3163 Victor N.	2245 Waggoner A.P.
1128 Van Der Meulen J.P.	2364 Videler J.J.	3769 Waggoner M.D.
2516 Van Der Weg J.	3032 Vidyakin G.S.	917 Wagman I.H.
1577 Van Der Wildt G.J.	3007 Vidyaykin B.I.	1752 Wagner G.
3431 Van Der Zwan L.	1547 Vieira F.L.	1757 Wagner G.
1483 Van Deursen F.W.	3149 Vieu J.F.	2773 Wagner G.
2423 Van Dieren A.	995 Vincent C.H.	482 Wagner H.
1918 Van Dyk H.J.L.	2867 Vinel P.	2808 Wagner Jr H.N.
2516 Van Eck J.	1245 Vinje E.W.	1989 Wagner S.
2274 Van Eijnsbergen B.	3218 Vinje E.W.	987 Waheed Khan M.A.
3144 Van Eijnsbergen B.	3681 Vinogradov I.P.	691 Wahl G.
1516 Van Gemen J.	2500 Vishnevskaya T.M.	3367 Walbesser W.J.
2032 Van Gerven D.	1229 Visscher W.M.	1624 Wald N.
2343 Van Hasselt P.	855 Visser B.F.	3729 Waldron K.
2082 Van Herpen G.	2729 Visser K.R.	995 Walker E.W.
2404 Van Herpen G.	2730 Visser K.R.	1974 Walker G.F.
2411 Van Herpen G.	2847 Vladimirov Y.A.	1905 Walker I.

2315 Walker J.M.	3154 Waxman A.D.	544 Werner J.
2012 Walker P.J.	1523 Wayland H.	809 Werner J.
2172 Walker P.M.	293 Wayne R.P.	748 Wersall J.
2777 Walker P.S.	293 Wayne T.J.	2973 Wersling P.B.
2781 Walker P.S.	2298 Weaver B.M.Q.	2045 Wesseling K.H.
990 Wall C.F.	2089 Weaver C.S.	2472 Wesseling K.H.
418 Wall J.C.	1434 Webber C.E.	2903 Wesseling K.H.
2655 Wallace J.	2472 Weber H.	3672 West J.B.
2992 Wallen J.D.	2903 Weber H.	3615 Westbeck S.
1497 Wallevik K.	2045 Weber J.A.P.	1098 Westbrook R.M.
1755 Wallevik K.	1499 Weber R.E.	1756 Westbrook R.M.
2774 Wallow I.H.L.	3495 Weber S.	528 Westerberg R.A.
3415 Walls W.L.	2887 Webster J.C.	2666 Westheimer G.
2239 Wallstrom A.C.	1597 Webster J.G.	3248 Westheimer G.
102 Walraven P.L.	3471 Webster J.G.	2000 Wever R.
103 Walraven P.L.	2567 Weeks R.W.	2690 Weyhmann W.
624 Walsh J.	1167 Wehling I.	2692 Weymann D.
467 Walter D.O.	84 Wei L.Y.	2115 Weyten L.
3616 Walter D.O.	1315 Wei L.Y.	3469 Whalen R.E.
3475 Walter III W.H.	2306 Wei L.Y.	3012 Whang U.S.
831 Wambersie A.	2407 Weidman W.H.	2509 Wheeler C.B.
2242 Wang C.H.	415 Weightman B.	2176 Wheeler D.R.
685 Wang C.P.	2807 Weikel Jr J.H.	2660 Whillans D.W.
1921 Wang C.Y.	2990 Weil J.V.	2661 Whillans D.W.
81 Wang H.C.	3627 Weil M.H.	1979 Whipp B.J.
1561 Wang H.C.	2448 Weiler H.	1940 White D.C.
213 Wang H.S.C.	1399 Weimer P.K.	1961 White D.N.
1405 Wang L.	1557 Weinberg H.	2868 White III A.A.
39 Wang R.J.	242 Weindl H.	1540 White Jr R.I.
390 Wanke J.	679 Weindl H.	1001 White R.
2589 Wann D.F.	3217 Weiner H.J.	548 White T.J.
1354 Wanselow R.D.	2213 Weinert F.K.	549 White T.J.
2357 Wapner S.	3165 Weinkam J.J.	1124 White T.J.
2099 Wapstra A.H.	364 Weinman J.	1967 White W.C.
2567 Ward A.L.	3043 Weinman J.	696 Whitehaus G.
1323 Ward J.A.	3671 Weinman J.	2534 Whitehead D.G.
755 Ward R.W.	2213 Weinschel B.O.	2552 Whiteley R.
1940 Wardley-Smith B.	3016 Weisbach M.F.	901 Whitmore G.A.
3424 Ware N.G.	38 Weiss D.J.	2971 Whitmore J.R.
3720 Ware R.W.	2393 Weiss G.H.	1900 Wickramasekera I.
3407 Ware W.R.	603 Weiss M.S.	3179 Wied G.L.
286 Waring R.C.	1110 Weiss M.S.	1966 Wiener S.N.
746 Warme P.K.	2479 Weiss M.S.	1086 Wieszmann B.
1609 Warme P.K.	751 Weiss P.A.	3264 Wigstrom H.
464 Warner H.R.	3062 Weissenhofer W.	2779 Wijkmans D.W.
2371 Warner J.	1289 Weissler P.G.	1325 Wilamowski B.M.
878 Warren J.E.	220 Wekstein D.R.	2104 Wilbur R.
2538 Warren W.B.	3138 Welander U.	2253 Wilcke H.L.
349 Wartak J.	2322 Welford N.T.	3168 Wilcock A.H.
1208 Wartak J.	455 Welland J.M.	3440 Wilde E.
2271 Wartak J.	1762 Weller C.	1536 Wildenthal K.
1216 Wasa K.	3340 Weller C.	2731 Wildenthal K.
25 Wasan M.T.	280 Wells S.C.	3154 Wilender J.
3324 Waser N.M.	1 Welsch W.	1214 Wilhelm K.
1979 Wasserman K.	2969 Welzl G.	2540 Wilhelm S.E.
665 Watanabe H.	1706 Wemple R.R.	2508 Wilke W.
1986 Watanabe K.	3063 Wemple R.R.	568 Wilkins D.G.
9 Watanabe S.	3067 Wemple R.R.	2189 Wilkins F.J.
860 Watanabe T.	928 Wen Jei Yang	955 Wilkinson E.L.G.
903 Waterhouse C.	1301 Wen Jei Yang	772 Wilkinson I.M.S.
2888 Waterhouse R.V.	3602 Wen Jei Yang	3463 Wilkinson J.M.
2228 Waterman F.M.	3109 Wendenburg H.O.	477 Wilkinson P.N.
3132 Waters R.L.	2159 Wendland B.	1985 Wilks H.S.
1803 Waterson J.G.	2582 Wendt H.	1150 Wilks R.J.
1754 Watson B.W.	2953 Wenger R.	822 Willemain T.R.
3659 Watson B.W.	768 Wennemark J.R.	3658 Willemain T.R.
556 Watson C.S.	1200 Wenner R.	859 Willems J.L.
15 Watson D.B.	1200 Wenzel K.	1958 Willes R.F.
3145 Watson J.	2400 Were M.	1259 Willey R.
2854 Watts D.G.	3431 Werle H.	325 Williams A.R.
2886 Waugh R.	2455 Wernecke K.D.	1858 Williams C.B.

1686 Williams C.E.	796 Wolf A.V.	401 Yamamura K.
723 Williams D.	1339 Wolf E.	2335 Yamazaki A.
3709 Williams D.	629 Wolf F.	2123 Yamazaki T.
1468 Williams J.	3582 Wolf H.	1814 Yarom A.
1596 Williams J.	1206 Wolf H.K.	2997 Yarom A.
983 Williams J.F.	3550 Wolf H.K.	1410 Yasaki E.K.
966 Williams J.R.	796 Wolf R.A.	269 Yashin N.A.
2450 Williams J.S.	2928 Wolf S.L.	421 Yatteau J.D.
3698 Williams M.C.	3384 Wolfendale P.C.F.	1250 Yau S.S.
3012 Williams M.W.	2989 Wolfrum R.	3406 Yeboah Amankwah D.
754 Williams P.	306 Wolgast M.	3286 Yee K.W.
3125 Williams R.	1916 Wolter J.R.	2259 Yeh H.J.C.
717 Williams R.C.	883 Wong A.K.C.	1447 Yelkin A.Y.
2669 Williams R.K.	1093 Wong A.Y.K.	3575 Yelkin A.P.
521 Williams W.J.	1095 Wong A.Y.K.	2458 Yen C.S.
1861 Williamson P.	357 Woo K.B.	3008 Yen T.T.
983 Willis B.A.	3775 Woo K.B.	2659 Yen W.M.
3075 Willis C.R.	837 Wood D.S.	3724 Yenenko S.O.
1397 Willson R.H.	2749 Wood E.H.	2845 Yeo G.F.
1050 Wilmshurst T.H.	3140 Wood E.H.	288 Yermakov B.A.
3392 Wilmshurst T.H.	188 Wood G.M.	18 Yermakov D.S.
803 Wilpizeski C.	681 Wood R.C.	2677 Yermakov D.S.
1336 Wilson D.R.	2887 Woodhead M.M.	1646 Yermishkin L.N.
612 Wilson G.	3597 Woodward A.E.	3225 Yermishkin L.N.
2613 Wilson G.D.	1107 Woodward D.J.	651 Yerofeyev N.K.
2778 Wilson Jr A.B.	3110 Woody C.D.	2775 Yevsikova L.G.
2356 Wilson Jr R.G.	1075 Wooler G.H.	1528 Yin F.C.P.
3584 Wilson K.C.	936 Woolley Hart A.	2066 Yoder R.D.
715 Wilson M.G.F.	3490 Worsham E.	2809 Yoder R.D.
2287 Wilson P.	2341 Worthen D.M.	2161 Yokoi H.
548 Wilson P.W.	3507 Worthen D.M.	2314 Yoneda S.
549 Wilson P.W.	1606 Worthley B.W.	2761 Yoneda S.
1124 Wilson P.W.	2046 Worthmann W.	2862 Yorke J.A.
914 Wilson R.	1182 Wortman P.M.	2171 Yoshimaru T.
1767 Wilton Davies C.C.	1301 Wotton D.R.	96 Yost W.A.
1064 Windels G.	1661 Wouters W.R.	1685 Yost W.A.
3707 Winders R.L.	1362 Woywood D.J.	17 Young D.C.
1214 Windhorst C.	2353 Wozny W.	1957 Young D.S.
2531 Windus G.G.	1875 Wranne B.	686 Young I.G.
81 Wineman A.S.	108 Wright A.A.	347 Young I.T.
1561 Wineman A.S.	2463 Wright B.E.	543 Young J.T.
1583 Winet H.	3438 Wright B.M.	2624 Young R.A.
3117 Winfield A.W.	1887 Wright D.E.	528 Young T.Y.
3393 Wingate D.L.	950 Wright H.A.	1231 Young T.Y.
1028 Winicur D.H.	724 Wright H.C.	2620 Young W.A.P.
2810 Winkel P.	3492 Wright Jr E.W.	538 Yphantis D.A.
2627 Winsemius P.	3731 Wright Jr E.W.	714 Yphantis D.A.
3052 Winship D.H.	2450 Wu S.C.	2402 Yphantis D.A.
1580 Winter D.A.	1583 Wu T.Y.	1174 Yu B.P.
1981 Winter D.A.	544 Wunder R.	1777 Yu F.T.S.
1086 Winter R.	809 Wunder R.	1584 Yuasa M.
1235 Wintz P.A.	59 Wunsch Z.	2265 Yushmanova A.V.
314 Winyard R.A.	3514 Wurthner K.	2743 Yushmanova A.V.
586 Winzer G.	3493 Wycis T.	
3732 Winzer G.	1608 Wyld R.	1447 Zabelina I.A.
3497 Wirtschafter J.D.	745 Wyn Jones E.	3327 Zacek I.
1727 Wise G.	3107 Wyte S.R.	3583 Zadeh L.A.
1925 Wise G.		1220 Zaha M.A.
2931 Wise K.D.	2545 Xanthoulis E.	1550 Zahlava J.
1125 Wisham L.H.	3283 Xanthoulis E.	788 Zaitseva K.A.
617 Wisotzky W.		2211 Zamarayev K.I.
2699 Withnell R.	1814 Yair R.	1976 Zambuto R.P.
2438 Witt D.	2489 Yajima A.	1218 Zaniolo C.
1834 Witte A.	1796 Yajima S.	2329 Zarccone V.P.
2663 Wittke J.P.	1568 Yakimoff N.	2859 Zarda R.P.
2944 Wittrick E.K.	578 Yakobson V.S.	296 Zaret M.M.
792 Witwer J.G.	2331 Yakobson V.S.	284 Zarubina I.L.
1113 Witzel R.F.	2959 Yakubenas V.A.V.	203 Zastawny A.
1436 Wobschall D.	1986 Yamamoto A.	1857 Zboralske F.F.
3425 Wohanka A.E.	152 Yamamoto M.	289 Zdrojkowski R.J.
3275 Wojewodzki W.	3774 Yamamoto T.	1575 Zenkin G.M.

3330 Zerzawy R.	2730 Zijlstra W.G.	3263 Zuber B.L.
3553 Zerzawy R.	2974 Zimmerman R.E.	398 Zuperku E.J.
3652 Zerzawy R.	2341 Zimmerman T.J.	2890 Zverev V.A.
1351 Zeuthen E.	3507 Zimmerman T.J.	434 Zwart A.
1906 Zhadin M.N.	1101 Zimmermann R.	2423 Zwart A.
227 Zhdanov G.S.	1588 Zimmermann R.	346 Zweifach B.W.
1445 Zhiginskii A.G.	2974 Zingg R.J.	1224 Zweigbergk C.A.
1549 Zhukov V.I.	433 Ziskin M.C.	1525 Zwirn P.
1806 Zias A.R.	2197 Zock J.P.	921 Zwislocki J.J.
452 Ziegler E.	988 Zolina N.K.	1917 Zwislocki J.J.
463 Ziegler E.	790 Zornetzer S.F.	
2457 Ziegler H.	2468 Zrnic D.S.	
1081 Ziemba Zak B.	2950 Zrudsky D.R.	
2197 Zijlstra W.G.	876 Zsagar H.J.	
2729 Zijlstra W.G.	2960 Zubakov V.G.	



Uro— dynamics

Upper and Lower Urinary Tract

Edited by **W. Lutzeyer** and **H. Melchior**

Abteilung Urologie der Medizinischen Fakultät
an der Rhein.-Westf. Techn. Hochschule Aachen

Redaction Assistants: P. Rathert and
K. Kraemer-Lutzeyer

209 figs. XII, 344 pp. 1973
Cloth DM 128,—; US \$57.70
ISBN 3-540-06337-4

Prices are subject
to change without notice

■ **Prospectus on request**



Springer-Verlag
Berlin
Heidelberg
New York

München Johannesburg
London New Delhi Paris
Rio de Janeiro Sydney
Tokyo Wien

Today urodynamics is an essential part of the functional approach to urology. It is not an isolated specialty concentrating on a specific region of the urogenital tract but a discipline that includes all dynamic processes from the renal calyces to the ureter, bladder and bladder neck, whether isolated or in combination. It concerns the relevant anatomy, physiology, instrumentation, pharmacodynamics, and clinical projection. Its sphere of interest ranges from pediatric urology via incontinence in adults to voiding difficulties in women.

In cases where it used to be hard to obtain reliable anatomic and radiological data, the pathological background can be filled in by means of a functional examination. A physiological-mathematical analysis of the various active and passive transport phenomena in the urinary tract requires novel instrumentation; yet the interpretation of the measured values must be based to an equal extent on a thorough knowledge of the organs involved. It is here that the functional approach impinges on the clinical field. For instance, when a decision has to be taken as between conservative and surgical treatment, urodynamics can give a decisive answer.

These conference proceedings contain up-to-date information on advances in urodynamics, its bio-technical development, its links with pathophysiology, and its clinical application and validity.

An introduction to the mathematics of medicine and biology

Second Revised Edition

by **J. G. DEFARES**, University of Leyden, The Netherlands, and **I. N. SNEDDON**, University of Glasgow, Scotland.

Second revised edition prepared with the assistance of **M. E. WISE**, University of Leyden, The Netherlands.

1973. xvi + 676 pages. 16 tables, 4 plates, 159 illus., over 140 lit. ref.
Dfl. 70.00 (about US\$ 28.00)

Physiology has rapidly developed into an exact, quantitative science borrowing its methods largely from experimental physics and physical Chemistry. Clinical medicine in turn is firmly rooted in physiology. This book sets out to illustrate the important role played by mathematical procedures in physiology, pharmacology and clinical medicine. Written by a physiologist, an applied mathematician (who has lectured to students of biology) and a medical biometrician, it provides a sound mathematical basis for research workers in the biological and medical sciences. Throughout the book, an emphasis is laid on how to formulate given medical or biological problems in mathematical terms.

'Throughout, the theory is illustrated by a wealth of practical examples. They tend to be mainly drawn from physiology, but one excellent feature of them is the emphasis placed on the construction of a suitable model.'

NATURE

'There is much in it of interest to the undergraduate engineer whose interests are inclined towards biology. It can be unreservedly recommended for postgraduate life scientists in all disciplines. Others will find the volume invaluable as a refresher and reference work.'

BIO-MEDICAL ENGINEERING

north-holland

P.O. BOX 211
AMSTERDAM
THE NETHERLANDS

1270 NH

Sole distribution in the Western Hemisphere:

THE YEAR BOOK MEDICAL PUBLISHERS, INC.

Chicago, U.S.A.

Excerpta Medica

Journals Division

P.O. Box 211

Amsterdam - The Netherlands

Subscription Information

Orders may be placed through any bookseller or subscription agency or directly with the Journals Division of Excerpta Medica.

Changes of address and claims for missing issues should be sent directly to the above address.

Please write for detailed information on any Excerpta Medica periodical. Specimen copies are available upon request.

In cooperation with Excerpta Medica, the Library of the Royal Netherlands Academy of Sciences can, under certain conditions, provide photocopies of the biomedical articles abstracted in Excerpta Medica's journals.

For information, please write direct to the Library, 29 Kloveniersburgwal, Amsterdam, The Netherlands.

The source publications in the social sciences are generally not available in the Academy's Library.

For these articles, please apply to the Editorial Department of Excerpta Medica, P.O. Box 1126, Amsterdam.

Printed in The Netherlands

Excerpta Medica Journals

European Journal of Cardiology

European Journal of Obstetrics

& Gynecology

Excerpta Medica Abstract Journals

Anatomy, Anthropology, Embryology and

Histology

Anesthesiology

Arthritis and Rheumatism

Microbiology: Bacteriology, Mycology and

Parasitology

Biophysics, Bio-engineering and Medical

Instrumentation

Cancer

Cardiovascular Diseases and Cardiovascular

Surgery

Chest Diseases, Thoracic Surgery, and

Tuberculosis

Clinical Biochemistry

Dermatology and Venereology

Developmental Biology and Teratology

Drug Dependence

Endocrinology

Environmental Health

Epilepsy

Gastroenterology

Gerontology and Geriatrics

Health Economics and Hospital Management

Hematology

Human Genetics

Immunology, Serology and Transplantation

Internal Medicine

Neurology and Neurosurgery

Nuclear Medicine

Obstetrics and Gynecology

Occupational Health and Industrial Medicine

Ophthalmology

Orthopedic Surgery

Otorhinolaryngology

General Pathology and Pathological Anatomy

Pediatrics and Pediatric Surgery

Pharmacology and Toxicology

Physiology

Plastic Surgery

Psychiatry

Public Health, Social Medicine and Hygiene

Radiology

Rehabilitation and Physical Medicine

Surgery

Urology and Nephrology

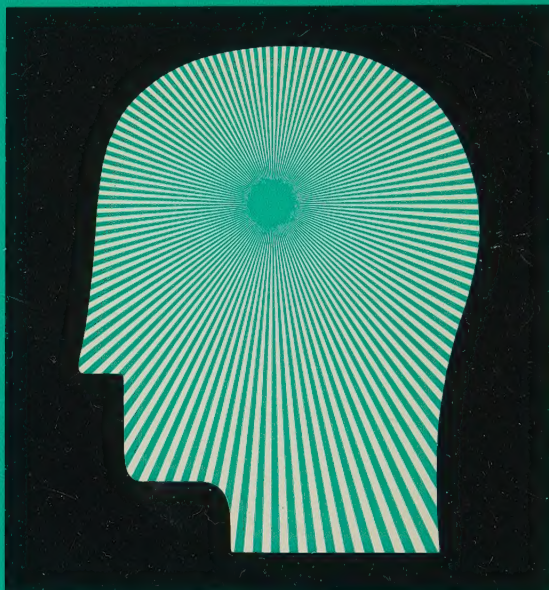
Virology

Excerpta Medica Current Bibliographies

Adverse Reactions Titles

Drug Literature Index

DEEPER RELIEF OF ANXIETY



NEW

Ativan^{*} 1 and 2 mg. (lorazepam, Wyeth)

- both physical and emotional relief
- for more patients
- at the lowest benzodiazepine dosage

Complete product monograph
available on request,
from:

WYETH INTERNATIONAL LIMITED
Philadelphia, Pa. 19101 U.S.A.
over a century of service to medicine
contributing to better health in 160 countries



^{*}trademark; also available under
the following trademarks:

AMPARAL — Chile; LORAX — Brazil;
LORENIN — Portugal; ORFIDAL — Spain;
TAVOR — Germany, Greece, Italy;
TEMESTA — Austria, Belgium, Denmark,
Finland, France, Holland, Luxemburg,
Norway, Sweden, Switzerland;